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Section 1 Chemical Product and Company Information Page 1 of 2



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Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product	SALICYLIC ACID
Synonyms	2-Hydroxybenzoic acid

Section 2 Hazards Identification

Signal word: WARNING
Pictograms: GHS07
Target organs: Central nervous system, Kidneys, Pancreas



GHS Classification:
Acute toxicity, oral (Category 4)
Eye irritation (Category 2B)
STOT SE (Category 3)

GHS Label information: Hazard statement:
H302: Harmful if swallowed.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.

Precautionary statement:
P261: Avoid breathing dust.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P301+P330+P332: IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor if you feel unwell.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists: Get medical attention.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.
P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Salicylic acid	69-72-7	100%	200-712-3

Section 4 First Aid Measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Dusts may form flammable and explosive mixtures in air.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 7 Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources. Light sensitive. Protect from light and moisture.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Salicylic acid	Not listed	Not listed	Not listed

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Solid. White, crystalline powder. Odor: No odor. Odor threshold: Data not available. pH: 2.4 Melting / Freezing point: 158-160°C (316-320°F) Boiling point: 211°C (412°F) Flash point: 157°C (315°F)	Evaporation rate (Butyl acetate = 1): <1 Flammability (solid/gas): Data not available. Explosion limits: Lower: Ca. 1.1% @ 20°C Upper: N/A Vapor pressure (mm Hg): 1 mm @ 114°C Vapor density (Air = 1): 4.8 Relative density (Specific gravity): 1.443 (20°/4°) Solubility(ies): Slightly soluble in water.	Partition coefficient: Data not available Auto-ignition temperature: 540°C (1004°F) Decomposition temperature: 540°C (1004°F) Viscosity: Data not available. Molecular formula: C ₇ H ₆ O ₃ Molecular weight: 138.12
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Section 10 Stability & Reactivity

Chemical stability: Stable
Hazardous polymerization: Will not occur.
Conditions to avoid: Excessive temperatures and heat. Light and moisture sensitive.
Incompatible materials: Strong oxidizers, iron salts, spirit nitrous ether, lead acetate and iodine.
Hazardous decomposition products: Oxides of carbon and phenol.

Section 11 Toxicological Information

Acute toxicity: Oral-rat LD50: 891 mg/kg ; Inhalation-rat LC50: 0.9 mg/L/1 hour
Skin corrosion/irritation: Skin-rabbit - draize test 500 mg/24H - Mild irritant
Serious eye damage/irritation: Eyes-rabbit - draize test 100 mg - Severe
Respiratory or skin sensitization: Data not available
Germ cell mutagenicity: Data not available
Carcinogenicity: Data not available
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive toxicity: Data not available
STOT-single exposure: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.
STOT-repeated exposure: Data not available
Aspiration hazard: Data not available
Potential health effects:
 Inhalation: Inhalation causes irritation of the mucous membrane and upper respiratory tract.
 Ingestion: Ingestion causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause 'salicylism', characterized by headache, dizziness, ringing in the ears, hearing difficulty, visual disturbance, mental confusion, drowsiness, sweating, thirst, hyperventilation, nausea, vomiting and diarrhea. Severe salicylate intoxication may cause CNS disturbances such as convulsions and coma. skin eruptions, and alteration in the acid-base balance.
 Skin: Contact causes irritation and possible burns, especially if the skin is wet or moist. May cause rash and eruptions.
 Eyes: Contact causes severe irritation. May result in corneal injury.
Signs and symptoms of exposure: See Potential health effects above. Exercise appropriate procedures to minimize potential hazards.
Additional information: RTECS #: VO0525000

Section 12 Ecological Information

Toxicity to fish: Leuciscus idus (fish, fresh water), LC50 = 90 mg/L/48 hours
Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacea), EC50 = 230 mg/L/24 hours
Toxicity to algae: Haematococcus pluvialis (Algae), EC10 = 165 mg/L/4 hours
Persistence and degradability: No data available
Bioaccumulative potential: No data available
Mobility in soil: No data available
PBT and vPvB assessment: No data available
Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations


These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information (US DOT / CANADA / ICG)

UN/NA number: Not applicable
Shipping name: Not Regulated
Hazard class: Not applicable
Packing group: Not applicable
Reportable Quantity: No
Marine pollutant: No
Exceptions: Not applicable
2012 ERG Guide # Not applicable

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Salicylic acid	Listed	Not listed	Not listed	Listed	Not listed	 D2A

Section 16 Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 678.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Sand

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Specific target organ toxicity, repeated exposure (Category 2). May cause damage to organs through prolonged or repeated exposure through inhalation (H373). Do not breathe mist, vapors or spray (P260). Do not eat, drink or smoke when using this product (P270).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Sand	14808-60-7	SiO ₂	60.08	

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up, place in sealed bag or container and dispose. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic Miscellaneous.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear eye protection. Wash hands thoroughly after handling.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Colorless or tan-colored crystals. Odorless.

Usually the major constituent is SiO₂ (silicon dioxide).

Boiling point: 2950 °C

Melting point: 1470 °C

Specific gravity: 2.6

SECTION 10 — STABILITY AND REACTIVITY

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD₅₀: N.A.

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

1. Product and Company Identification

Product identifier	Sani-Cloth Plus Germicidal Disposable Cloth	SDS0002-00
Other means of identification	Not available	
Recommended use	Disinfectant	
Recommended restrictions	For Professional and Hospital Use Not for use on skin Not a baby wipe.	
Manufacturer	Professional Disposables International, Inc. Two Nice-Pak Park, Orangeburg, NY 10962-1376 or Distributed By: Professional Disposables International, LTD Vaughan, Ontario L4L 4K9 Canada Phone: (USA) 1-845-365-1700 (M-F 9am - 5pm) Phone: (CANADA) 1-800-263-7067 Emergency Phone: 1-800-999-6423	

2. Hazards Identification

Physical hazards	Flammable solids	Category 1
Health hazards	Serious eye damage/eye irritation	Category 2B
Environmental hazards	Not determined.	
OSHA defined hazards	None additional.	

Label elements



Signal word	Danger	
Hazard statement	Flammable solid. Causes eye irritation.	
Precautionary statement		
Prevention	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Wash thoroughly after handling.	
Response	If in eyes: Rinse cautiously with water for 15 - 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. In case of fire: Use appropriate media to extinguish.	
Storage	Store away from incompatible materials.	
Disposal	Dispose of waste and residues in accordance with local authority requirements.	
Hazard(s) not otherwise classified (HNOC)	None known.	
Supplemental information	Not applicable.	

3. Composition/Information on Ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	%
Isopropanol		67-63-0	14.85
Benzyl-C12-18-alkyldimethyl ammonium chlorides		68391-01-5	0.125
Quaternary ammonium compounds, C12-18-alkyl [(ethylphenyl) methyl] dimethyl, chlorides		68956-79-6	0.125

Composition comments Composition shown on this Safety Data Sheet may contain information additional to that on the product label. This is due to different label requirements in different countries.

4. First Aid Measures

Inhalation	Not a normal route of exposure. If inhaled, remove to fresh air. Get medical attention if symptoms develop.
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Skin contact	If irritation develops, get medical attention.
Eye contact	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
Ingestion	Not a likely route of exposure. If ingestion does occur, call a poison control center or doctor for treatment advice.
Most important symptoms/effects, acute and delayed	Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
Indication of immediate medical attention and special treatment needed	Treat patient symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Avoid contact with eyes.

5. Fire Fighting Measures

Suitable extinguishing media	Water. Water Fog. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.
Fire-fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. In the event of fire, cool product with water spray. Move product from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials. Move products from fire area if you can do so without risk. In the event of fire and/or explosion do not breathe fumes.
General fire hazards	Flammable solid.
Hazardous combustion products	May include and are not limited to: Oxides of nitrogen. Oxides of carbon. Chloride compounds
Explosion data	
Sensitivity to mechanical impact	Not available.
Sensitivity to static discharge	Not available.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Wear appropriate protective equipment and clothing during clean-up. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Pick up and discard towelette. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and Storage

Precautions for safe handling	Do not use or store near heat or open flame. Use according to package label instructions. Use good industrial hygiene practices in handling this material. Wear appropriate personal protective equipment. Wash thoroughly after handling. When using do not eat or drink.
Conditions for safe storage, including any incompatibilities	Do not contaminate water, food or feed by storage and disposal. When not in use keep center cap of lid closed to prevent moisture loss. Keep out of reach of children. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure Controls/Personal Protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Isopropanol (CAS 67-63-0)	PEL	980 mg/m3

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
		400 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	1225 mg/m3
		500 ppm
	TWA	980 mg/m3
		400 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Isopropanol (CAS 67-63-0)	40 mg/l	Acetone	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines	Chemicals listed in section 3 that are not listed here do not have established limit values for ACGIH or OSHA PEL.
Appropriate engineering controls	Ensure adequate ventilation.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Not needed under normal use conditions. Follow label directions carefully. Wear gear as needed.
Skin protection	
Hand protection	Not usually needed. Follow label directions carefully.
Other	Follow label directions carefully.
Respiratory protection	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.
Thermal hazards	Not available.
General hygiene considerations	Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice. When using do not smoke. When using do not eat or drink.

9. Physical and Chemical Properties

Appearance	Liquid saturated on wipe
Physical state	Solid.
Form	Pre-moistened towelette.
Color	White
Odor	Mild alcohol.
Odor threshold	Not available.
pH	11 - 12 (liquid)
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Pour point	Not available.
Specific gravity	0.97 (liquid) (H2O = 1)
Partition coefficient (n-octanol/water)	Not available.
Flash point	95.0 °F (35.0 °C) Tag Closed Cup (Liquid)
Evaporation rate	Not available.

Flammability (solid, gas)	Flammable solid.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	Towel is not soluble in water
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Flash point class	Flammable IC

10. Stability and Reactivity

Reactivity	Do not mix with incompatible materials.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Contact with incompatible materials. Do not mix with other chemicals. Avoid high temperatures. Heat, flames and sparks.
Incompatible materials	Do not use on natural marble, windows, unpainted wood or brass, clear plastic or colored grout. Oxidizing agents. Acids. Anionic surfactants. Soaps. Bleach solutions.
Hazardous decomposition products	May include and are not limited to: Chloride compounds Hydrogen chloride. Oxides of nitrogen. Oxides of carbon.

11. Toxicological Information

Routes of exposure	Eye, Skin contact, Skin absorption, Inhalation, Ingestion.
Information on likely routes of exposure	
Ingestion	Health injuries are not known or expected under normal use.
Inhalation	Health injuries are not known or expected under normal use.
Skin contact	Non-irritating based on test data.
Eye contact	Mildly irritating to eyes based on test data.
Symptoms related to the physical, chemical and toxicological characteristics	Exposed individuals may experience eye tearing, redness, and discomfort.
Information on toxicological effects	
Acute toxicity	

Product	Species	Test Results
Sani-Cloth Plus Germicidal Disposable Cloth		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg, Based on OPPTS Test data
<i>Inhalation</i>		
LC50	Rat	> 2 mg/l/4h, Based on OPPTS Test data
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg, Based on OPPTS Test data

Components	Species	Test Results
Benzyl-C12-18-alkyldimethyl ammonium chlorides (CAS 68391-01-5)		
Acute		
<i>Dermal</i>		
LD50	Rat	2000 mg/kg 1420 mg/kg
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Mouse	150 mg/kg
	Rat	240 mg/kg
Isopropanol (CAS 67-63-0)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	12800 mg/kg
<i>Inhalation</i>		
LC50	Rat	16970 mg/l/4h
<i>Oral</i>		
LD50	Dog	4797 mg/kg
	Mouse	3600 mg/kg
	Rabbit	5030 mg/kg
	Rat	4396 mg/kg
Quaternary ammonium compounds, C12-18-alkyl [(ethylphenyl) methyl] dimethyl, chlorides (CAS 68956-79-6)		
Acute		
<i>Dermal</i>		
LD50	Not available	
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Rat	250 mg/kg
Skin corrosion/irritation	Non-irritating based on test data. Toxicity Category IV according to the OPPTS 870.2500 Acute Skin Irritation Study. Classified based on OPP/GHS Classification Criteria and Labeling Comparison.	
Exposure minutes	Not available.	
Erythema value	Not available.	
Oedema value	Not available.	
Serious eye damage/eye irritation	Causes eye irritation. Toxicity Category III according to the OPPTS 870.2500 Acute Eye Irritation Study. Classified based on OPP/GHS Classification Criteria and Labeling Comparison.	
Corneal opacity value	Not available.	
Iris lesion value	Not available.	
Conjunctival reddening value	Not available.	
Conjunctival oedema value	Not available.	
Recover days	Not available.	
Respiratory or skin sensitization		
Respiratory sensitization	Not available.	
Skin sensitization	Not a skin sensitizer based on test data.	
Germ cell mutagenicity	Non-hazardous by WHMIS/OSHA criteria.	
Mutagenicity	Non-hazardous by WHMIS/OSHA criteria.	
Carcinogenicity	Non-hazardous by WHMIS/OSHA criteria.	
Reproductive toxicity	Non-hazardous by WHMIS/OSHA criteria.	
Teratogenicity	Non-hazardous by WHMIS/OSHA criteria.	
Specific target organ toxicity - single exposure	Not classified.	

Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not classified.
Chronic effects	Non-hazardous by WHMIS/OSHA criteria.
Further information	Not available.
Name of Toxicologically Synergistic Products	Not available.

12. Ecological Information

Ecotoxicity	Components of this product have been identified as having potential environmental concerns. See below		
Components		Species	Test Results
Isopropanol (CAS 67-63-0)			
Algae	IC50	Algae	1000 mg/L, 72 Hours
Crustacea	EC50	Daphnia	13299 mg/L, 48 Hours
Aquatic			
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>)	> 1400 mg/l, 96 hours
Persistence and degradability	No data is available on the degradability of this product.		
Bioaccumulative potential	No data available.		
Mobility in soil	No data available.		
Mobility in general	Not available.		
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.		

13. Disposal Considerations

Disposal instructions	Dispose of contents/container in accordance with local/regional/national/international regulations. Dispose of used towelette in accordance with local regulations for infectious waste disposal. Follow container label directions carefully. Do not reuse towelette. Dispose of used towelette in trash. Do not flush in toilet. Nonrefillable container. Do not reuse or refill this container. Triple rinse and offer for recycling. If recycling is not available, put in trash collection.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	Assign as required.
Waste from residues / unused products	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information

U.S. Department of Transportation (DOT) and IMDG

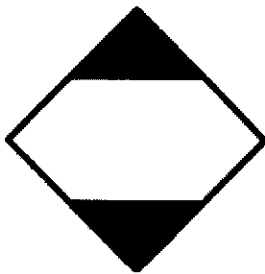
Basic shipping requirements:

UN number	UN3175
Proper shipping name	Solids containing flammable liquid, n.o.s. (Isopropanol)
Hazard class	4.1
Packing group	II
Packaging exceptions	<1kg - limited quantity (par. 173.151)

Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

UN number	UN3175
Proper shipping name	SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S. (Isopropanol)
Hazard class	4.1
Packing group	II
Packaging exceptions	<1kg limited quantity



15. Regulatory Information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

Canada NPRI VOCs with Additional Reporting Requirements: Mass reporting threshold/Identification Number

Isopropanol (CAS 67-63-0) 1 TONNES

Canada WHMIS Ingredient Disclosure: Threshold limits

Isopropanol (CAS 67-63-0) 1 %

WHMIS classification Exempt - Registered product - (DIN 02242608)

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

PRECAUTIONARY STATEMENTS:

Hazards to humans and Domestic animals.

CAUTION: Causes moderate eye irritation. Avoid contact with eyes and clothing. Wash thoroughly with soap and water after handling and before eating and drinking, chewing gum, using tobacco or using toilet.

EPA Reg. # 9480-6

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

Isopropanol (CAS 67-63-0) 1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Isopropanol (CAS 67-63-0) Listed.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Isopropanol (CAS 67-63-0) Listed.

US CAA Section 111 Volatile Organic Compounds: Listed substance

Isopropanol (CAS 67-63-0) Listed.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Isopropanol	67-63-0	14.85

Other federal regulations

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

US state regulations This product is not subject to warning labeling under the California Proposition 65 regulation.

US - California Hazardous Substances (Director's): Listed substance

Isopropanol (CAS 67-63-0) Listed.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

US - Illinois Chemical Safety Act: Listed substance

Isopropanol (CAS 67-63-0) Listed.

US - Louisiana Spill Reporting: Listed substance

Isopropanol (CAS 67-63-0) Listed.

US - Minnesota Haz Subs: Listed substance

Isopropanol (CAS 67-63-0) Listed.

US - New Jersey RTK - Substances: Listed substance

Isopropanol (CAS 67-63-0) Listed.

US - Texas Effects Screening Levels: Listed substance

Benzyl-C12-18-alkyldimethyl ammonium chlorides (CAS 68391-01-5) Listed.

Isopropanol (CAS 67-63-0) Listed.

US. Massachusetts RTK - Substance List

Isopropanol (CAS 67-63-0) Listed.

US. Pennsylvania RTK - Hazardous Substances

Isopropanol (CAS 67-63-0) Listed.

US. Rhode Island RTK

Isopropanol (CAS 67-63-0) Listed.

Inventory status

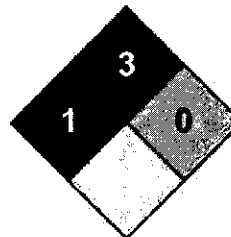
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

HEALTH	/ 1
FLAMMABILITY	3
	0
PERSONAL PROTECTION	X



Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

Issue date	12-June-2015
Effective date	12-June-2015
Expiry date	12-June-2018

Further information

For any questions surrounding this SDS, please contact the supplier/manufacturer listed on the first page of the document.

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Not for use on skin. Not a baby wipe. For use on hard surfaces only.

Do not use on natural marble, windows, unpainted wood, brass, clear plastic or coloured grout.

Revision 1. Added "and IMDG" to section 14 (ARegalado)

Bulk Liquid # 4BQ89001.

Prepared by

Professional Disposables International, Inc Phone: 1-845-365-1700

Other information

This Safety Data Sheet was prepared to comply with the current OSHA Hazard Communication Standard (HCS) adoption of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

This SDS conforms to the ANSI Z400.1/Z129.1-2010 Standard.



SAFETY DATA SHEET

SARGENT METALLIC TEMPERA
Issue date: 10/03/2012

SDS ID: 00031012
Revision Date: 09/20/2013

*** Section 1 – PRODUCT AND COMPANY IDENTIFICATION ***

Product Name: SARGENT METALLIC TEMPERA

SARGENT ART, INC

Phone: 1-800-424-3596

100 East Diamond Ave.
Hazleton, PA 18201
www.sargentart.com

Health Emergency – Call local Poison Control Center

Synonyms: 680 Series; 8oz Clear Bottle (Pack of 6).
8oz. & 16oz. opaque bottles (Pack of 6).

Product Codes: 22-50xx; 22-5099; 22-53mm; 22-5306; 22-54mm; 22-5406.

Product Use: Arts and Crafts

*** Section 2 – HAZARD(S) IDENTIFICATION ***

EMERGENCY OVERVIEW

Color: various colors
Physical Form: liquid

POTENTIAL HEALTH EFFECTS

Inhalation: none
Skin Contact: none
Eye Contact: none
Ingestion: none

*** Section 3 – COMPOSITION / INFORMATION ON INGREDIENTS ***

CAS	Component	Percent	Symbol	Risk Phrase(s)
Not Available	Product has been certified as non-toxic by the US Board Certifies Toxicologist and Conforms to ASTM D-4236 standard practice for Labeling Art Materials for acute and chronic adverse health hazards.	100	---	---

*** Section 4 – FIRST AID MEASURES ***

Inhalation

It is unlikely that emergency treatment will be required. Remove from exposure. Get medical attention, if needed.

Skin

It is unlikely that emergency treatment will be required. If adverse effects occur, wash with soap or mild detergent and large amounts of water. Get medical attention, if needed.

Eyes



SAFETY DATA SHEET

SARGENT METALLIC TEMPERA

Issue date: 10/03/2012

SDS ID: 00031012

Revision Date: 09/20/2013

It is unlikely that emergency treatment will be required. Wash with large amounts of water or normal saline until no evidence of chemical remains (at least 15-20 minutes). Get medical attention immediately.

Ingestion

Rinse mouth thoroughly with water. Get medical attention if any discomfort occurs.

*** Section 5 – FIRE FIGHTING MEASURES ***

See Section 9 for Flammability Properties

NFPA Ratings: Health: 1 Fire: 1 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Flammable Properties

Slight fire hazard.

Extinguishing Media

Regular dry chemical, carbon dioxide, water, regular foam

Fire Fighting Measures

Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products.

*** Section 6 – ACCIDENTAL RELEASE MEASURES ***

Occupational spill/release

Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal.

*** Section 7 – HANDLING AND STORAGE ***

Handling Procedures

Provide adequate ventilation. Wear appropriate protection equipment. Avoid breathing mist or vapor. Avoid contact with eyes and prolonged skin contact. Do not taste or swallow. Keep the workplace clean. Observe good industrial hygiene practices.

Storage Procedures

Store in a well-ventilated place. Store in closed original container at room temperature.

*** Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION ***

Component Exposure Limits

ACGIH and EU have not developed exposure limits for any of this product's components.

Ventilation

Based on available information, additional ventilation is not required.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face

Eye protection not required under normal conditions.

Protective Clothing

Protective clothing is not required under normal conditions.

Glove Recommendations

Protective gloves are not required under normal conditions.

Respiratory Protection



SAFETY DATA SHEET

SARGENT METALLIC TEMPERA
Issue date: 10/03/2012

SDS ID: 00031012
Revision Date: 09/20/2013

No respirator is required under normal conditions of use.
Under conditions of frequent use or heavy exposure, respiratory protection may be needed.

*** Section 9 – PHYSICAL AND CHEMICAL PROPERTIES ***

Appearance:	Liquid	Flash Point:	Not available
Physical State:	Liquid	Flammability:	Not available
Physical Form:	Liquid	Vapor Pressure:	Not available
Color:	Assorted colors	Vapor Density (air=1):	Not available
Odor:	Odorless	Evaporation Rate:	Not available
Odor Threshold:	Not available	Specific Gravity:	1.13 – 1.18
pH:	<=9.5	Density:	9.2 – 9.85 Lbs/Gal
Melting Point:	Not available	Water Solubility:	Soluble
Freezing Point:	Not available	Coeff.Water/Oil Dist:	Not available
Boiling Point:	Not available	Volatility:	Not available
Viscosity:	12000 – 45000 cP		

*** Section 10 – STABILITY AND REACTIVITY ***

Chemical Stability

Stable at normal temperatures and pressure.

Conditions to Avoid

None reported.

Materials to Avoid

Oxidizing materials.

Decomposition Products

Oxides of carbon.

Possibility of Hazardous Reactions

Will not polymerize.

*** Section 11 – TOXICOLOGICAL INFORMATION ***

Component Analysis – LD50/LC50

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

RTECS Acute Toxicity (selected)

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, or DFG.

RTECS Irritation

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

*** Section 12 – ECOLOGICAL INFORMATION ***

Component Analysis – Aquatic Toxicity



SAFETY DATA SHEET

SARGENT METALLIC TEMPERA

Issue date: 10/03/2012

SDS ID: 00031012

Revision Date: 09/20/2013

No LOLI ecotoxicity data is available for this product's components.

*** Section 13 – DISPOSAL CONSIDERATION ***

Disposal Methods

Dispose in accordance with all applicable regulations.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

*** Section 14 – TRANSPORT INFORMATION ***

US DOT Information:	Not Regulated.
TDG Information:	Not Regulated.
ADR Information:	Not Regulated.
RID Information:	Not Regulated.
IATA Information:	Not Regulated.
ICAO Information:	Not Regulated.
IMDG Information:	Not Regulated.

*** Section 15 – REGULATORY INFORMATION ***

U.S. Federal Regulations

None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA Section 311/312 (40 CFR 370 Subparts B and C)

Acute Health: No Chronic Health: No Fire: No Pressure: No Reactive: No

U.S. State Regulations

None of this product's components are listed on the state lists from CA, MA, MN, NJ or PA.

Not regulated under California Proposition 65

Canada

This product has been classified in accordance with the criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

WHMIS CLASSIFICATION: Not a Controlled Product under Canada's Workplace Hazardous Material Information System.

Component Analysis – Inventory

No information is available.

*** Section 16 – OTHER INFORMATION ***

Allergens:

This product do not contain common allergens such as latex, eggs, milk, wheat, gluten, soy, sunflower or other seeds, tree nuts, and peanuts.



SAFETY DATA SHEET

SARGENT METALLIC TEMPERA

Issue date: 10/03/2012

SDS ID: 00031012

Revision Date: 09/20/2013

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Agency Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists - ChemADVIUSOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States.

Disclaimer

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.



SAFETY DATA SHEET

SAX LIQUID WATERCOLORS
Issue date: 02/11/2013

SDS ID: 00110214
Revision Date: ---

*** Section 1 – PRODUCT AND COMPANY IDENTIFICATION ***

Product Name: SAX LIQUID WATERCOLORS

SCHOOL SPECIALTY

Phone: 1-920-243-5225

W6316 Design Drive.
Greenville, WI 54912-1579
www.schoolspecialty.com

Health Emergency – Call local Poison Control Center

Synonyms: 8 oz Liquid Watercolors (Yellow, Orange, Gold, Red, Magenta, Violet, Blue, Turquoise, Green, Pearl, Antique Gold, Gold, Silver, Black, Brown, Copper)

Product Codes: 14-6002, 14-6014, 14-6018, 14-6020, 14-6038, 14-6042, 14-6050, 14-6061, 14-6066, 14-6071, 14-6075, 14-6081, 14-6082, 14-6085, 14-6088, 14-6094, 14-6097, 14-6098, 14-6099.

Product Use: Arts and Crafts

*** Section 2 – HAZARD(S) IDENTIFICATION ***

EMERGENCY OVERVIEW

Color: various colors
Physical Form: solid
Odor: odorless

POTENTIAL HEALTH EFFECTS

Inhalation: none
Skin Contact: none
Eye Contact: none
Ingestion: none

*** Section 3 – COMPOSITION / INFORMATION ON INGREDIENTS ***

CAS	Component	Percent	Symbol	Risk Phrase(s)
Not Available	Product has been certified as non-toxic by the US Board Certifies Toxicologist and Conforms to ASTM D-4236 standard practice for Labeling Art Materials for acute and chronic adverse health hazards.	100	---	---



SAFETY DATA SHEET

SAX LIQUID WATERCOLORS
Issue date: 02/11/2013

SDS ID: 00110214
Revision Date: ---

*** Section 4 – FIRST AID MEASURES ***

Inhalation

It is unlikely that emergency treatment will be required. Remove from exposure. Get medical attention, if needed.

Skin

It is unlikely that emergency treatment will be required. If adverse effects occur, wash with soap or mild detergent and large amounts of water. Get medical attention, if needed.

Eyes

It is unlikely that emergency treatment will be required. Wash with large amounts of water or normal saline until no evidence of chemical remains (at least 15-20 minutes). Get medical attention immediately.

Ingestion

Contact local poison control center or physician immediately.

*** Section 5 – FIRE FIGHTING MEASURES ***

See Section 9 for Flammability Properties

NFPA Ratings: Health: 1 Fire: 1 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Flammable Properties

Slight fire hazard.

Extinguishing Media

Regular dry chemical, carbon dioxide, water, regular foam

Fire Fighting Measures

Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products.

*** Section 6 – ACCIDENTAL RELEASE MEASURES ***

Occupational spill/release

Collect spilled material in appropriate container for disposal.

*** Section 7 – HANDLING AND STORAGE ***

Handling Procedures

Use methods to minimize dust.

Storage Procedures

Store and handle in accordance with all current regulations and standards. See original containers for storage recommendations. Keep separated from incompatible substances.

*** Section 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION ***

Component Exposure Limits

ACGIH and EU have not developed exposure limits for any of this product's components.



SAFETY DATA SHEET

SAX LIQUID WATERCOLORS
Issue date: 02/11/2013

SDS ID: 00110214
Revision Date: ---

Ventilation

Based on available information, additional ventilation is not required.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face

Eye protection not required under normal conditions.

Protective Clothing

Protective clothing is not required under normal conditions.

Glove Recommendations

Protective gloves are not required under normal conditions.

Respiratory Protection

No respirator is required under normal conditions of use.

Under conditions of frequent use or heavy exposure, respiratory protection may be needed.

*** Section 9 – PHYSICAL AND CHEMICAL PROPERTIES ***

Appearance:	Liquid	Flash Point:	Not available
Physical State:	Liquid	Flammability:	Not available
Physical Form:	Liquid	Vapor Pressure:	Not available
Color:	Assorted colors	Vapor Density (air=1):	Not available
Odor:	Odorless	Evaporation Rate:	Not available
Odor Threshold:	Not available	Specific Gravity:	Not available
pH:	Not available	Density:	Not available
Melting Point:	Not available	Water Solubility:	Not available
Freezing Point:	Not available	Coeff. Water/Oil Dist:	Not available
Boiling Point:	Not available	Volatility:	Not available
Viscosity:	Not available		

*** Section 10 – STABILITY AND REACTIVITY ***

Chemical Stability

Stable at normal temperatures and pressure.

Conditions to Avoid

None reported.

Materials to Avoid

Oxidizing materials.

Decomposition Products

Oxides of carbon.

Possibility of Hazardous Reactions

Will not polymerize.

*** Section 11 – TOXICOLOGICAL INFORMATION ***



SAFETY DATA SHEET

SAX LIQUID WATERCOLORS
Issue date: 02/11/2013

SDS ID: 00110214
Revision Date: ---

Component Analysis – LD50/LC50

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

RTECS Acute Toxicity (selected)

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, or DFG.

RTECS Irritation

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

*** Section 12 – ECOLOGICAL INFORMATION ***

Component Analysis – Aquatic Toxicity

No LOLI ecotoxicity data is available for this product's components.

*** Section 13 – DISPOSAL CONSIDERATION ***

Disposal Methods

Dispose in accordance with all applicable regulations.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

*** Section 14 – TRANSPORT INFORMATION ***

US DOT Information:	Not Regulated.
TDG Information:	Not Regulated.
ADR Information:	Not Regulated.
RID Information:	Not Regulated.
IATA Information:	Not Regulated.
ICAO Information:	Not Regulated.
IMDG Information:	Not Regulated.

*** Section 15 – REGULATORY INFORMATION ***

U.S. Federal Regulations

None of this product's components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA Section 311/312 (40 CFR 370 Subparts B and C)

Acute Health: No Chronic Health: No Fire: No Pressure: No Reactive: No



SAFETY DATA SHEET

SAX LIQUID WATERCOLORS
Issue date: 02/11/2013

SDS ID: 00110214
Revision Date: ---

U.S. State Regulations

None of this product's components are listed on the state lists from CA, MA, MN, NJ or PA.

Not regulated under California Proposition 65

Canada

This product has been classified in accordance with the criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

WHMIS CLASSIFICATION: Not a Controlled Product under Canada's Workplace Hazardous Material Information System.

Component Analysis – Inventory

No information is available.

*** Section 16 – OTHER INFORMATION ***

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR – European Road Transport; AU – Australia; BOD – Biochemical Oxygen Demand; C – Celsius; CA – Canada; CAS – Chemical Abstracts Service; CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act; CN – China; CPR – Controlled Products Regulations; DFG – Deutsche Forschungsgemeinschaft; DOT – Department of Transportation; DSL – Domestic Substances List; EEC – European Economic Community; EINECS – European Inventory of Existing Commercial Chemical Substances; EPA – Environmental Protection Agency; EU – European Union; F – Fahrenheit; IARC – International Agency for Research on Cancer; IATA – International Air Transport Association; ICAO – International Civil Agency Organization; IDL – Ingredient Disclosure List; IDLH – Immediately Dangerous to Life and Health; IMDG – International Maritime Dangerous Goods; JP – Japan; Kow – Octanol/water partition coefficient; KR – Korea; LEL – Lower Explosive Limit; LOLI – List Of Lists – ChemADVIUSOR's Regulatory Database; MAK – Maximum Concentration Value in the Workplace; MEL – Maximum Exposure Limits; NFPA – National Fire Protection Agency; NIOSH – National Institute for Occupational Safety and Health; NJTSR – New Jersey Trade Secret Registry; NTP – National Toxicology Program; NZ – New Zealand; OSHA – Occupational Safety and Health Administration; PH – Philippines; RCRA – Resource Conservation and Recovery Act; RID – European Rail Transport; RTECS – Registry of Toxic Effects of Chemical Substances; SARA – Superfund Amendments and Reauthorization Act; STEL – Short-term Exposure Limit; TDG – Transportation of Dangerous Goods; TSCA – Toxic Substances Control Act; TWA – Time Weighted Average; UEL – Upper Explosive Limit; US – United States.

Disclaimer

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.

SAFETY DATA SHEET (SDS)

MATERIAL NAME: **SAX TRUE FLOW MULTI-MEDIA VARNISH GLOSS**LAST REVISION: **3/16/2018**

SECTION 1 – IDENTIFICATION

Material Name

SAX TRUE FLOW MULTI-MEDIA VARNISH GLOSS

Product Number

Various

(All information the same for all colors and sizes.)

Company Information

SAX / SCHOOL SPECIALTY

P.O. Box 1579

Appleton, WI 54912-1579

U.S.A

Phone: 888-388-3224

Fax: 888-388-6344

Website: www.saxarts.com; www.schoolspecialty.com

For Health Emergencies Call the Poison Control Center: 1-888-516-2502

Seek medical assistance for further treatment, observation and support, if necessary.

SECTION 2 – HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.

There are no GHS label elements.

PRIMARY ROUTES OF ENTRY: INHALATION, INGESTION, EYE, SKIN

EFFECTS AND SYMPTOMS OF ACUTE EXPOSURE: NONE EXPECTED

EFFECTS AND SYMPTOMS OF CHRONIC EXPOSURE: NONE EXPECTED

CARCINOGEN LISTING: NTP: **NO** IARC: **NO** OSHA: **NO**

SEE SECTION 3 FOR COMPONENTS AFFECTED

MEDICAL CONDITIONS USUALLY AGGRAVATED BY OVER EXPOSURE TO THIS PRODUCT: NONE

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	CAS #	PEL/TLV (MG/M#)	Max % Weight	NTP	IARC
NONE					

SECTION 4 – FIRST AID MEASURES

FIRST AID MEASURES: NONE REQUIRED

NO ACUTE HEALTH EFFECTS EXPECTED.

SECTION 5 – FIRE FIGHTING MEASURES

FLASH POINT (METHOD): N/A

AUTOIGNITION TEMPERATURE: N/A

EXPLOSION LIMITS IN AIR (% BY VOLUME): NOT EXPLOSIVE

EXTINGUISHING MEDIA: NO SPECIAL MEDIA REQUIRED

FIRE FIGHTING PROCEDURES: NO SPECIAL FIRE FIGHTING PROCEDURES REQUIRED

UNUSUAL FIRE & EXPLOSION HAZARDS: NOT COMBUSTIBLE

SECTION 6 – ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE A MATERIAL IS SPILLED:

Clean up in accordance with all applicable regulations. Absorb spillage with non-combustible, absorbent material.

For waste disposal, see Section 13.

SECTION 7 – HANDLING & STORAGE

PRECAUTIONS TO BE TAKEN DURING STORAGE AND HANDLING:

Good industrial hygiene practice requires that exposure be maintained below the TLV. This is preferably achieved through the provision of adequate ventilation. When exposure cannot be adequately controlled in this way, personal respiratory protection should be employed.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

RESPIRATORY PROTECTION AND SPECIAL VENTILATION REQUIREMENTS: NONE REQUIRED

OTHER PROTECTIVE EQUIPMENT (GLOVES, GOGGLES, ETC.): NONE REQUIRED

WORK / HYGIENE PRACTICES: NONE REQUIRED

ENGINEERING CONTROLS: NONE REQUIRED

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: N/A

MELTING POINT: N/A

VAPOR PRESSURE: N/A

SPECIFIC VAPOR DENSITY (AIR=1): N/A

SPECIFIC GRAVITY: N/A

SOLUBILITY IN WATER: N/A

REACTIVITY IN WATER: NON-REACTIVE

SECTION 10 – STABILITY AND REACTIVITY

HAZARDOUS POLYMERIZATION PRODUCTS: NONE

STABILITY: STABLE CONDITIONS TO AVOID: NONE

INCOMPATIBILITY (MATERIALS TO AVOID): NONE

HAZARDOUS DECOMPOSITION PRODUCTS: NONE

SECTION 11 – TOXICOLOGICAL INFORMATION

ACUTE EFFECTS ASSOCIATED WITH USE OF THIS MATERIAL: NONE EXPECTED

The summated LD50 is 50000 mg/kg.

The summated LC50 is 99999 mg/cubic meter.

This product is not considered to be a known or suspected human carcinogen by NTP, IARC or OSHA (see section 3)

SECTION 12 – ECOLOGICAL INFORMATION

NO HARMFUL EFFECTS KNOWN OTHER THAN THOSE ASSOCIATED WITH SUSPENDED INERT SOLIDS IN WATER.

SECTION 13 – DISPOSAL CONSIDERATIONS

RCRA HAZARD CLASS (40 CFR 261):

THIS PRODUCT IS NOT CLASSIFIED AS A HAZARDOUS WASTE.

WASTE DISPOSAL METHOD:

DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION 14 – TRANSPORTATION INFORMATION

U.S. DOT (49 CFR 172.101): THIS IS NOT A HAZARDOUS MATERIAL AS CLASSIFIED BY CFR 172.101.

SECTION 15 – REGULATORY INFORMATION

CONTENTS OF THIS SDS COMPLY WITH OSHA HAZARD COMMUNICATION STANDARD 29 CFR 1910.1200

EPA SARA TITLE III CHEMICAL LISTINGS

NONE

SECTION 302.4 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355): NONE

SECTION 313 TOXIC CHEMICALS (40 CFR 372): NONE

INTERNATIONAL REGULATIONS

CANADIAN WHMIS:

THIS PRODUCT IS A CONTROLLED PRODUCT UNDER CANADA'S WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM.

IT CONTAINS THE FOLLOWING TOXIC OR HIGHLY TOXIC MATERIALS:

PROPYLENE GLYCOL

SUPPLEMENTAL STATE COMPLIANCE INFORMATION

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) LISTED UNDER NEW JERSEY'S RIGHT TO KNOW PROGRAM:

AMMONIUM HYDROXIDE

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) REQUIRING NOTIFICATION TO THE STATE OF WASHINGTON UNDER THEIR CHILDREN'S SAFE PRODUCTS ACT:

NONE

Under CPSC's consumer product regulations (16CFR1500.3 and 150014), this product has the following required acute and chronic hazard labeling:

NONE

SECTION 16 – OTHER INFORMATION

ALL INFORMATION THE SAME FOR ALL COLORS AND SIZES.

THIS PRODUCT DOES NOT CONTAIN EGG, DAIRY, WHEAT, GLUTEN, SOY OR PEANUT PRODUCTS, BY-PRODUCTS OR DERIVATIVES.

THIS PRODUCT DOES NOT CONTAIN LATEX MATERIALS OR ANIMAL DERIVED INGREDIENTS.

1440719 1440709 1440686
 1440720 1440710 1440687
 1440731 1440711 1440688
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SAFETY DATA SHEET (SDS)

MATERIAL NAME: **SAX VERSATEMP LIQUID TEMPERA**

LAST REVISION: **9/1/2015**

SECTION 1 – IDENTIFICATION

Material Name

SAX VERSATEMP LIQUID TEMPERA

Product Number VARIOUS

(All information is the same for all colors, sizes and sets)

Manufacturer Information

SAX/SCHOOL SPECIALTY

PO BOX 1579

Appleton, Wisconsin 54912-1579

U.S.A.

Phone: 888-388-3224

Fax: 888-388-6344

www.saxarts.com

Emergency Phone Number: 1-800-257-8278

Poison Control Center: 1-888-516-2502

SECTION 2 – HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.

There are no GHS label elements.

PRIMARY ROUTES OF ENTRY: INHALATION, INGESTION, EYE, SKIN

EFFECTS AND SYMPTOMS OF ACUTE EXPOSURE: NONE EXPECTED

EFFECTS AND SYMPTOMS OF CHRONIC EXPOSURE: NONE EXPECTED

CARCINOGEN LISTING: NTP: **NO** IARC: **NO** OSHA: **NO**

SEE SECTION 3 FOR COMPONENTS AFFECTED

MEDICAL CONDITIONS USUALLY AGGRAVATED BY OVER EXPOSURE TO THIS PRODUCT: NONE

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	CAS #	PEL/TLV (MG/M#)	Max % Weight	NTP	IARC
NONE					

SECTION 4 – FIRST AID MEASURES

FIRST AID MEASURES: NONE REQUIRED

NO ACUTE HEALTH EFFECTS EXPECTED.

SECTION 5 – FIRE FIGHTING MEASURES

FLASH POINT (METHOD): N/A

AUTOIGNITION TEMPERATURE: N/A

EXPLOSION LIMITS IN AIR (% BY VOLUME): NOT EXPLOSIVE

EXTINGUISHING MEDIA: NO SPECIAL MEDIA REQUIRED

FIRE FIGHTING PROCEDURES: NO SPECIAL FIRE FIGHTING PROCEDURES REQUIRED

UNUSUAL FIRE & EXPLOSION HAZARDS: NOT COMBUSTIBLE

SECTION 6 – ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE A MATERIAL IS SPILLED:

Clean up in accordance with all applicable regulations. Absorb spillage with non-combustible, absorbent material. For waste disposal, see Section 13.

SECTION 7 – HANDLING & STORAGE

PRECAUTIONS TO BE TAKEN DURING STORAGE AND HANDLING:

Good industrial hygiene practice requires that exposure be maintained below the TLV. This is preferably achieved through the provision of adequate ventilation. When exposure cannot be adequately controlled in this way, personal respiratory protection should be employed.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

RESPIRATORY PROTECTION AND SPECIAL VENTILATION REQUIREMENTS: NONE REQUIRED

OTHER PROTECTIVE EQUIPMENT (GLOVES, GOGGLES, ETC.): NONE REQUIRED

WORK / HYGIENE PRACTICES: NONE REQUIRED

ENGINEERING CONTROLS: NONE REQUIRED

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: N/A

MELTING POINT: N/A

VAPOR PRESSURE: N/A

SPECIFIC VAPOR DENSITY (AIR=1): N/A

SPECIFIC GRAVITY: N/A

SOLUBILITY IN WATER: N/A

REACTIVITY IN WATER: NON-REACTIVE

SECTION 10 – STABILITY AND REACTIVITY

HAZARDOUS POLYMERIZATION PRODUCTS: NONE

STABILITY: STABLE CONDITIONS TO AVOID: NONE

INCOMPATIBILITY (MATERIALS TO AVOID): NONE

HAZARDOUS DECOMPOSITION PRODUCTS: NONE

SECTION 11 – TOXICOLOGICAL INFORMATION

ACUTE EFFECTS ASSOCIATED WITH USE OF THIS MATERIAL: NONE EXPECTED

The summated LD50 is 21400 mg/kg.

The summated LC50 is 41684 mg/cubic meter.

This product is not considered to be a known or suspected human carcinogen by NTP, IARC or OSHA (see section 3)

SECTION 12 – ECOLOGICAL INFORMATION

NO HARMFUL EFFECTS KNOWN OTHER THAN THOSE ASSOCIATED WITH SUSPENDED INERT SOLIDS IN WATER.

SECTION 13 – DISPOSAL CONSIDERATIONS

RCRA HAZARD CLASS (40 CFR 261):

THIS PRODUCT IS NOT CLASSIFIED AS A HAZARDOUS WASTE.

WASTE DISPOSAL METHOD:

DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION 14 – TRANSPORTATION INFORMATION

U.S. DOT (49 CFR 172.101): THIS IS NOT A HAZARDOUS MATERIAL AS CLASSIFIED BY CFR 172.101.

SECTION 15 – REGULATORY INFORMATION

CONTENTS OF THIS SDS COMPLY WITH OSHA HAZARD COMMUNICATION STANDARD 29 CFR 1910.1200

EPA SARA TITLE III CHEMICAL LISTINGS

NONE

SECTION 302.4 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355): NONE

SECTION 313 TOXIC CHEMICALS (40 CFR 372): NONE

INTERNATIONAL REGULATIONS

CANADIAN WHMIS: THIS PRODUCT COMPLIES WITH CANADA'S WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM.

IT CONTAINS NO TOXIC OR HIGHLY TOXIC MATERIALS

SUPPLEMENTAL STATE COMPLIANCE INFORMATION:

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) LISTED UNDER NEW JERSEY'S RIGHT TO KNOW PROGRAM:

AMMONIUM HYDROXIDE

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) REQUIRING NOTIFICATION TO THE STATE OF WASHINGTON UNDER THEIR CHILDREN'S SAFE PRODUCTS ACT:

NONE

Under CPSC's consumer product regulations (16CFR1500.3 and 150014), this product has the following required acute and chronic hazard labeling:

NONE

SECTION 16 – OTHER INFORMATION

ALL INFORMATION THE SAME FOR ALL COLORS AND SIZES.

THIS PRODUCT DOES NOT CONTAIN EGG, DAIRY, WHEAT, GLUTEN, SOY OR PEANUT PRODUCTS, BY-PRODUCTS OR DERIVATIVES.

THIS PRODUCT DOES NOT CONTAIN LATEX MATERIALS OR ANIMAL DERIVED INGREDIENTS.



SAFETY DATA SHEET

1. Identification

Product identifier ScaleAway
Other means of identification
Product code F229012
Recommended use Bathroom Cleaner/Descaler
Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Franklin Cleaning Technology
Address One Fuller Way
Great Bend, KS 67530
United States
Telephone Customer Service (800) 810-4829
E-mail Not available.
Emergency phone number CHEMTREC (800) 424-9300
Emergency (620) 792-1711
24 hour Emergency (800) 424-9300

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Skin corrosion/irritation Category 1
Serious eye damage/eye irritation Category 1
Environmental hazards Not classified.
OSHA defined hazards Not classified.

Label elements



Signal word Danger
Hazard statement Causes severe skin burns and eye damage. Causes serious eye damage.
Precautionary statement
Prevention Do not breathe mist or vapor. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.
Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Specific treatment (see this label). Wash contaminated clothing before reuse.
Storage Store locked up.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC) None known.
Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Glycollic Acid		79-14-1	10 - < 20

Chemical name	Common name and synonyms	CAS number	%
UNDECETH-7		34398-01-1	1 - < 3
Other components below reportable levels			80 - < 90

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Use water spray to reduce vapors or divert vapor cloud drift. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
Environmental precautions	Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in original tightly closed container. Keep out of the reach of children. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Viscous Liquid
Physical state	Liquid.
Form	Liquid.
Color	Blue
Odor	Matches to Standard
Odor threshold	Not available.
pH	2.2
Melting point/freezing point	32 °F (0 °C)
Initial boiling point and boiling range	212 °F (100 °C) estimated
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	0.61 hPa estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	8.65 lbs/gal

Percent volatile 87.25 % estimated
 Specific gravity 1.04
 VOC (Weight %) 0

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability Material is stable under normal conditions.
Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.
Conditions to avoid Contact with incompatible materials.
Incompatible materials Strong oxidizing agents.
Hazardous decomposition products No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Ingestion Causes digestive tract burns.
Inhalation May cause irritation to the respiratory system.
Skin contact Causes severe skin burns.
Eye contact Causes serious eye damage.
Symptoms related to the physical, chemical and toxicological characteristics Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity Not available.

Product	Species	Test Results
ScaleAway (CAS Mixture)		
Acute		
<i>Inhalation</i>		
LC50	Rat	73.3333 mg/l, 4 Hours estimated
<i>Oral</i>		
LD50	Guinea pig	18285.7148 mg/kg estimated
	Rat	18232.8184 mg/kg estimated
<i>Other</i>		
LD50	Mouse	165000 mg/kg estimated
	Rat	9478.6729 mg/kg estimated

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes severe skin burns and eye damage.
Serious eye damage/eye irritation Causes serious eye damage.
Respiratory or skin sensitization
Respiratory sensitization Not available.
Skin sensitization This product is not expected to cause skin sensitization.
Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
 Not listed.
Reproductive toxicity This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not available.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product	Species		Test Results
ScaleAway (CAS Mixture)			
Aquatic			
Crustacea	EC50	Daphnia	246.6667 mg/l, 48 hours estimated
Fish	LC50	Fish	315.5604 mg/l, 96 hours estimated

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Glycollic Acid -1.11

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number ID8000
UN proper shipping name Consumer commodity
Transport hazard class(es)
Class 9
Subsidiary risk -
Label(s) 9
Packing group Not applicable.
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Packaging exceptions 167
Packaging non bulk 167
Packaging bulk None

IATA

UN number ID8000
UN proper shipping name Consumer commodity
Transport hazard class(es)
Class 9
Subsidiary risk -
Packing group Not applicable.
Environmental hazards No.
ERG Code 9L
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Other information

Passenger and cargo aircraft Allowed.
 Cargo aircraft only Allowed.

IMDG

UN number ID8000
 UN proper shipping name Consumer commodity
 Transport hazard class(es)
 Class 9
 Subsidiary risk -
 Label(s) 9
 Packing group Not applicable.

Environmental hazards

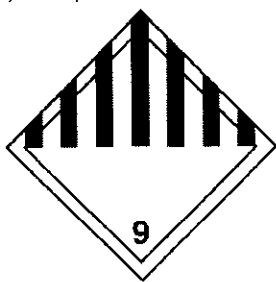
Marine pollutant No.

EmS Not available.

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This substance/mixture is not intended to be transported in bulk.

DOT; IATA; IMDG

**15. Regulatory information**

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are listed or exempted from listing on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
 Immediate Hazard - Yes
 Delayed Hazard - No
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)
 Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

16. Other information, including date of preparation or last revision

Issue date 10-31-2014

Version # 01

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SAFETY DATA SHEET

Issuing Date 23-Aug-2017

Revision Date 29-Jan-2020

Revision Number 1.1

NGHS / English



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1. IDENTIFICATION

Product identifier

Product Name School Health labeled alcohol-free hand sanitizer, unscented

Other means of identification

Product Code(s) 1413813

Recommended use of the chemical and restrictions on use

Recommended Use Hand sanitizer

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Identification safeHands Solutions, LLC

Address
35 Post Office Park
Suite 3505
Wilbraham
MA
01095
US

Telephone
Phone:8667489990
Fax:4135131330

E-mail purchasing.ne@safehands.com

Emergency telephone number

Company Emergency Phone Number 8667489990

2. HAZARDS IDENTIFICATION

Classification

Not classified.



The product contains no substances which at their given concentration, are considered to be hazardous to health

Appearance Colorless

Physical state Foam Liquid

Odor Odorless

GHS Label elements, including precautionary statements

Hazard statements

Not classified.

Other information

Harmful to aquatic life.

Unknown acute toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable.

Mixture

Chemical name	CAS-No	Percent	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Benzalkonium chloride	63449-41-2	0.26	-	-

4. FIRST AID MEASURES

First aid measures

Inhalation

Remove to fresh air.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact

Wash skin with soap and water.

Ingestion

Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms

No information available.



Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical No information available.

Hazardous Combustion Products Carbon oxides.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with eyes.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters



Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection No special protective equipment required.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical state Foam; Liquid
Appearance Colorless
Odor Odorless
Color No information available
Odor Threshold Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks Method</u>
pH	7	
Melting / freezing point	No data available	None known
Boiling point / boiling range	100 °C / 212 °F	
Flash Point	No data available	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	1	
Water Solubility	Insoluble in water	
Solubility(ies)	No data available	None known
Partition coefficient: n-octanol/water	1 to 98	
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other Information

Explosive properties No information available
Oxidizing properties No information available
Softening Point No information available
Molecular Weight No information available



VOC Content (%) No information available
 Liquid Density No information available
 Bulk Density No information available
 Particle Size No information available
 Particle Size Distribution No information available

10. STABILITY AND REACTIVITY

Reactivity No information available.
Chemical stability Stable under normal conditions.
Possibility of Hazardous Reactions None under normal processing.
Hazardous Polymerization Hazardous polymerization does not occur.
Conditions to avoid None known based on information supplied.
Incompatible materials None known based on information supplied.
Hazardous Decomposition Products Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available.
Eye contact Specific test data for the substance or mixture is not available.
Skin contact Specific test data for the substance or mixture is not available.
Ingestion Specific test data for the substance or mixture is not available.

Information on toxicological effects

Symptoms No information available.

Numerical measures of toxicity

Acute Toxicity

Unknown acute toxicity 0 % of the mixture consists of ingredient(s) of unknown toxicity
 0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
 0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Benzalkonium chloride	-	= 1420 mg/kg (Rat)	-



Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	No information available.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Harmful to aquatic life.
Persistence and Degradability	No information available.
Bioaccumulation	There is no data for this product.
Mobility	No information available.
Other adverse effects	No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.

California Hazardous Waste Codes 311

14. TRANSPORT INFORMATION

DOT	NOT REGULATED
Proper Shipping Name	NON-REGULATED
Hazard Class	N/A
TDG	Not regulated



<u>MEX</u>	Not regulated
<u>ICAO</u>	Not regulated
<u>IATA</u>	Not regulated
Proper Shipping Name	NON REGULATED
Hazard Class	N/A
<u>IMDG/IMO</u>	Not regulated
Hazard Class	N/A
<u>RID</u>	Not regulated
<u>ADR</u>	Not regulated
<u>ADN</u>	Not regulated

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations

Ozone-depleting substances (ODS) Not applicable

Persistent Organic Pollutants Not applicable

Export Notification requirements Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status.
DSL/NDSL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.
AICS	Contact supplier for inventory compliance status.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden release of pressure hazard	No

Reactive Hazard

No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances above threshold limits that are regulated by state right-to-know.

16. OTHER INFORMATION

NFPA	Health hazards 1	Flammability 0	Instability 0	Physical and Chemical Properties - Personal Protection X
HMIS	Health hazards 1	Flammability 0	Physical hazards 0	

Prepared By Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Issuing Date 23-Aug-2017

Revision Date 29-Jan-2020

Revision Note School Health label

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet



MATERIAL SAFETY DATA SHEET

1. Chemical Product and Company Identification

Description: School Smart Art Paste
Product Type: Methyl Cellulose

2. Manufacturer/Supplier Information

School Specialty, Inc.
W6316 Design Drive
Greenville, WI 54924

School Specialty Phone: 888-388-3224
National Poison Control Center: 800-222-1222

3. Composition, Information On Ingredients:

The product conforms to ASTM D-4236 standards (the standard practice for labeling art materials for acute and chronic adverse health hazards)

CAS Number: Not Available
EC Number: Not Available
Percentage: 100%

4. Emergency Overview:

Appearance: Off-White powder
Odor: Slight
Not a fire hazard

5. Hazards

Ingestion: Not harmful under normal conditions of use
Inhalation: Not harmful under normal conditions of use. If allowed to become airborne may cause irritation of nose, throat and lungs.
Skin: Not harmful under normal conditions of use. May cause irritation on prolonged or repeated use.
Eyes: Not harmful under normal conditions of use. May cause irritation on prolonged or repeated use.

First aid measures

Ingestion: If accidentally swallowed, drink large amounts of water. Contact poison control center or hospital emergency room for any other treatment procedures.

INHALATION: Remove to fresh air. Call a physician immediately

SKIN: Rinse with water.

EYES: Flush with large amounts of water. Call a physician if irritation Persists.

6. Fire Fighting Measures

Use dry chemical, CO₂, water spray or alcohol foam. Burning can produce irritant fumes. Cool closed containers with water mist. Dust may be explosive in mixes with air.

Accidental Release Measures:

Dispose according to Federal, State and Local regulations.

7. Handling and Storage

Handling

Handle in accordance with good industrial hygiene and safety practices.

Always use appropriate personal protective equipment.

INHALATION: Remove to fresh air. Call a physician immediately

SKIN: Not harmful under normal conditions of use. May cause irritation on prolonged or repeated use.

EYES: Not harmful under normal conditions of use. May cause irritation on prolonged or repeated use.

Storage:

Store in a cool, dry place.

Keep container tightly closed.

8. Exposure Controls/Personal Protection

Exposure Controls

Not harmful under normal conditions of use. Use under adequate ventilation

Personal Protection

Recommend the use of dust masks, plastic gloves and enclosed safety glasses.

9. Physical and Chemical Properties

Percent volatiles	Not available
PH	Not available
Specific Gravity	Not available
Appearance	Off-white powder
Auto-ignition temperature	Not available
Boiling Point	Not applicable
Vapor Density	Not available
Vapor Pressure	Not available
Flammable Limits	Not available
Flash Point	Not available
Freezing Point	Not applicable
Odor	Slight
Solubility	Soluble

10. Stability and Reactivity

Stable

Toxicological Information

Product is non-toxic under normal conditions of use

Ecological Information

Not available

Incompatibilities

Oxidizers, Acids or Bases

Decomposition Products

Oxides of Carbon

Hazardous Polymerization

Will not occur

Other Hazards:

None known

Disposals

Dispose in accordance with all applicable federal and local regulations.

11. Other Information

Product conforms to Non-Toxic ASTM D-4236.

STAPLES

SAFETY DATA SHEET

Date Issued: 04-27-2015
Supersedes: 04-23-2013

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name SEB RTU Glass Cleaner
Product Number SEB611001-A, SEB611032-A
Brand Brighton Professional™

Recommended Use Glass and mirror Cleaner (Ready to Use)
Uses advised against No information available

Supplier Name Staples Contract & Commercial, Inc.
Supplier Address 500 Staples Drive
 Framingham MA 01702 USA

Supplier Phone Number 1-888-322-0912
Emergency telephone number 1-888-322-0912

Prepared By: Regulatory Specialist, Staples Brand Group, (508) 253-5000

Note: Products labeled as a consumer product in accordance with the United States Consumer Product Safety Commission regulations: The warnings presented below in this Safety Data Sheet (SDS) comply with the 2012 OSHA Hazard Communication Standard (GHS - Globally Harmonized System of Classification and Labeling). The requirements for the labeling and warnings of consumer products may differ from those required for GHS based hazard communication.

2. HAZARDS IDENTIFICATION

Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200) and Canadian Hazardous Products Regulations (HPR) (WHMIS 2015-GHS).

Precautionary Statements – Prevention: Not required

Hazards not otherwise classified (HNOC): Not applicable

Other information: May cause slight eye irritation

Interactions with Other Chemicals: No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

The product contains no substances which at their given concentration, are considered to be hazardous to health.

4. FIRST AID MEASURES

First aid measures

Eye Contact Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

Skin Contact Wash with soap and water.

Inhalation Remove to fresh air.

Ingestion Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person.

Most Important Symptoms and Effects: No information available

Indication of any immediate medical attention and special treatment needed
Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media: CAUTION: Use of water spray when fighting fire may be inefficient.
Specific Hazards: No information available.
Hazardous Combustion Products: Carbon oxides.

Explosion Data

Sensitivity to Mechanical Impact: No.
Sensitivity to Static Discharge: No.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Avoid contact with eyes.
Environmental Precautions Refer to protective measures listed in Sections 7 and 8.
Methods for Containment Prevent further leakage or spillage if safe to do so.
Methods for cleaning up Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes.
Storage Keep container tightly closed.
Incompatible Products None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering Measures General ventilation generally adequate.

Individual protection measures, such as personal protective equipment

Eye/Face Protection No special protective equipment required.
Skin and Body Protection No special protective equipment required.
Respiratory Protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State

Appearance	Liquid	Odor	Citrus
Color	Light blue	Odor Threshold	No information available

Property

pH (as is)	10-12
Melting / freezing point	No data available
Boiling point /boiling range	No data available
Flash Point	No data available
Evaporation Rate	No data available
Flammability	No data available
Vapor density	No data available
Specific Gravity	No data available
Water Solubility	No data available
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available

Autoignition temperature	No data available
Decomposition temperature	No data available
Kinematic viscosity	No data available
Dynamic viscosity	No data available
Explosive properties	No data available
Softening Point	No data available
VOC Content (by weight)	<0.1% (<1.0 g/L)
Particle Size	No data available

This product is compliant with California Air Resources Board (CARB) regulations on Volatile Organic Compounds (VOC).

10. STABILITY AND REACTIVITY

Reactivity:	No data available.
Chemical stability:	Stable under recommended storage conditions.
Possibility of Hazardous Reactions:	None under normal processing.
Hazardous Polymerization:	Hazardous polymerization does not occur.
Conditions to avoid:	None known based on information supplied.
Incompatible materials:	None known based on information supplied.
Hazardous Decomposition Products:	Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	Specific test data for the substance or mixture is not available.
Eye Contact	Specific test data for the substance or mixture is not available.
Skin Contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.
Component Information	Not applicable

Information on toxicological effects

Symptoms	No information available.
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Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization	No information available.
Mutagenic Effects	No information available.
Carcinogenicity	Contains no ingredient listed as a carcinogen.
Reproductive Toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Chronic Toxicity	No known effect based on information supplied.
Target Organ Effects	None known.
Aspiration Hazard	No information available.

Numerical measures of toxicity Product Information

The following values are calculated based on chapter 3.1 of the GHS document
 Not applicable

12. ECOLOGICAL INFORMATION

Ecotoxicity:	The environmental impact of this product has not been fully investigated.
Persistence and Degradability:	No information available.
Bioaccumulation:	No information available.
Other adverse effects:	No information available.

13. DISPOSAL CONSIDERATIONS

Disposal methods:	This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.
Contaminated Packaging	Dispose of contents/containers in accordance with local regulations.
California Hazardous Waste Codes	561

14. TRANSPORT INFORMATION

24-HR EMERGENCY PHONE: 1-888-322-0912

DOT/ TDG/ MEX/ ICAO/ IATA/ IMDG/IMO: Not Regulated

15. REGULATORY INFORMATION

International Inventories

TSCA (US) Complies
 DSL (Canada) All components are listed either on the DSL or NDSL.

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute Health Hazard No
 Chronic Health Hazard No
 Fire Hazard No
 Sudden release of pressure hazard No
 Reactive Hazard No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations:

This product does not contain any substances regulated by state right-to-know regulations.

International Regulations

Canada

16. OTHER INFORMATION

NFPA	Health Hazards 1	Flammability 0	Instability 0	Physical & chemical Hazards – Personal protection X
HMIS	Health Hazards 1	Flammability 0	Physical Hazard 0	

Always follow label directions carefully when using this or any other chemical product. If information about this product is required, please contact Staples at 1-888-322-0912 or visit our website at www.staplesadvantage.com. Keep Safety Data Sheets filed and organized in an area accessible to workers according to all applicable regulations.

All information contained in this SDS is provided to the best of Staples Contract & Commercial Inc.'s knowledge. No warranty is made with respect to this information expressed or implied, including warranties of merchantability or fitness for a particular purpose. Users are responsible for verifying the information under their own operating conditions to determine whether the products listed in the SDS are suitable for their intended use. Users are responsible for compliance with all laws and regulations as may be required by their receipt of the information and use of the products provided with this SDS.

SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION

Product identifier used on the label: ServClean Gel Hand Sanitizer

Other means of Identification: 29328

Recommended use of the chemical and restrictions on use: Hand Sanitizing, Personal domestic.

Manufacturer/Supplier:

Charlotte Products Ltd.

Address:

2060 Fisher Dr.
Peterborough, On K9J 6X6

Telephone: 705-740-2880

Fax: 705-745-1239

24 Hr. Emergency Tel. #: Infotrac 1-800-535-5053 (North America), 011-1-352-323-3500 (International)

SECTION 2 - HAZARDS IDENTIFICATION

Classification of the chemical:

Flammable Liquids 3

Eye Damage/Irritation 2A

Label elements:

Signal Word: Danger

Hazard statement(s)

H225	Highly Flammable liquid and vapour
H319	Causes serious eye irritation
H350	May cause cancer (Ingestion) Suspected of damaging the unborn child
H361	(Ingestion)
H370	Causes damage to organs

Precautionary statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces – No smoking
P233	Keep container tightly closed
P240	Ground/bond container and receiving equipment
P241	Use explosion-proof electrical/ventilating/light/equipment
P242	Use only non-sparking tools
P243	Take precautionary measures against static discharge
P260	Do not breathe mist/vapours/spray
P270	Do not eat, drink or smoke when using this product
P312	Call a poison center or doctor/physician if you feel unwell

P321	Specific treatment (see section 4 of SDS)
P332+313	If skin irritation occurs: Get medical advice/attention
P337+313	If eye irritation persists, get medical advice/attention
P362	Take off contaminated clothing and wash before reuse
P370+378	In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide for extinction
P403+235	Store in a well-ventilated place. Keep cool
P405	Store locked up
P501	Dispose of contents/container in accordance with local regulation

Hazard pictogram(s)



Other hazards not otherwise classified: None Known

Unknown Acute Toxicity: 0%

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name, Common Name & Synonyms:	CAS #	Concentration %
Ethanol	64-17-5	65-85
Hydrogen Peroxide 3%	7722-84-1	4-5
Glycerine 95%	56-81-5	1.3-2

**** If the chemical name/CAS # is "proprietary" and/or the weight % is shown as a range, this information had been withheld as a trade secret.**

SECTION 4 - FIRST-AID MEASURES

Description of first aid measures:

If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, call a poison center or doctor/physician.

Notes to Physician: Severe poisoning occurs when the blood ethanol level is 0.3-0.5%. Above 0.5% the individual will be comatose, and death can occur. The unabsorbed ethanol should be removed by gastric lavage after intubating the patient to prevent aspiration. Avoid the use of depressant drugs or the excessive administration of fluids. This product contains two ingredients of relatively low toxicity: Hydrogen Peroxide and Glycerine.

Indication of any immediate medical attention and special treatment needed: Treat symptomatically

SECTION 5 - FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media: Not determined

Special hazards arising from the substance or mixture: None known

Flammability classification: Flammable

Hazardous combustion products: Carbon oxides, oxides of phosphorus other unidentified organic compounds.

Special protective equipment and precautions for firefighters:

Protective equipment for fire-fighters: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from firefighting to enter drains or water courses. Dike for water control.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Keep people away from and upwind of spill/leak. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8.

Methods and material for containment and cleaning up: Do not allow material to contaminate ground water system. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply. Ventilate the area. Prevent further leakage or spillage if safe to do so. Soak up with inert absorbent material. Do not use combustible absorbents, such as sawdust. Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.

Special spill response procedures: In case of a transportation accident, contact Infotrac 1-800-535-5053 (North America), 011-1-352-323-3500 (International). If a spill/release in the US in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).

SECTION 7 - HANDLING AND STORAGE

Precautions for safe handling: Handle in accordance with good industrial hygiene and safety practice. Use protective equipment recommended in section 8. Avoid contact with eyes or clothing. Do not breathe fumes/gas/vapors/spray.

Conditions for safe storage: Keep container tightly closed and store in a cool, dry and well-ventilated place. Store locked up. Keep out of reach of children.

Incompatible materials: Fluorine, strong oxidizing or reducing agents, bases, metals, sulfur trioxide, phosphorus pentoxide. Do not mix with other chemicals or cleaners.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits:					
		ACGIH		OSHA	
Chemical Name	CAS #	TWA	STEL	PEL	STEL
Ethanol	64-17-5	1000 ppm		1000 ppm	
Hydrogen Peroxide	7722-84-1	1.0 ppm			

Glycerine	56-81-5	10mg/m3			
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Exposure controls:

Ventilation and engineering measures: Not required under normal use conditions. Apply technical measures to comply with the occupational exposure limits.

Respiratory protection: Not required with normal use. If airborne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134). Advice should be sought from respiratory protection specialists.

Other protective equipment: Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations: Do not breathe vapours or spray mist. Avoid contact with eyes and clothing. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear colourless liquid

Odor: Typical ethanol odour

Odor threshold: No applicable information available

pH: 7.0-8.5

Melting/Freezing point: No applicable information available

Initial boiling point and boiling range: No applicable information available

Flash point: No data available

Flashpoint (Method): Tag Closed Cup

Evaporation rate (BuAe = 1): Similar to water

Flammability (solid, gas): Flammable liquids 3

Lower flammable limit (% by vol.): 3.3

Upper flammable limit (% by vol.): 19.0

Vapor pressure: No applicable information available

Vapor density: No applicable information available

Relative density: No applicable information available

Solubility in water: Soluble

Other solubility(ies): No applicable information available

Partition coefficient: No applicable information available

Auto ignition temperature: No applicable information available

Decomposition temperature: No applicable information available

Viscosity: Slightly viscous.

Volatile organic Compounds (%VOC's): No applicable information available

Other physical/chemical comments: No applicable information available

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: Not normally reactive

Chemical stability: Stable

Possibility of hazardous reactions: No hazardous polymerization

Conditions to avoid: Keep out of reach of children. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials. Extremely high temperatures. Open flame.

Incompatible materials: Strong acids, Strong bases.

Hazardous decomposition products: None known. Refer to 'Hazardous Combustion Products' in Section 5

SECTION 11 - TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry - inhalation: Avoid breathing vapors or mists

Routes of entry - eye: Avoid contact with eyes

Routes of entry - Ingestion: Do not taste or swallow

Potential Health Effects:

Signs and symptoms of short term (acute) exposure:

Symptoms: Please see section 4 of this SDS sheet for symptoms.

Potential Chronic Health Effects:

Mutagenicity: Not expected to be mutagenic in humans.

Carcinogenicity: A4 (Not classified for human or animal.) by ACGIH

Reproductive effects: No applicable information available

Sensitization to material: No applicable information available

Specific target organ effects: Classified Development toxin [PROVEN]. Classified Reproductive system/toxin/female, Reproductive system/toxin/male [POSSIBLE]. It causes damage to the following organs: blood, the reproductive system, liver, upper respiratory tract, skin, central nervous system (CNS).

Medical conditions aggravated by overexposure: Pre-existing skin or eye disorders.

Toxicological data:

See the following table for individual ingredient acute toxicity data.

Chemical name	CAS #	LD ₅₀	LD ₅₀	LC ₅₀
		(Oral, rat)	(Dermal. Rabbit)	(4hr, Inhal., rat)
Ethanol	64-17-5	7060 mg/kg	20000 mg/kg	31623 ppm
Hydrogen Peroxide	7722-84-1			
Glycerine	56-81-5			

*All empty cells no applicable information available

Other important toxicological hazards: None reported.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity: No applicable information available

Persistence and degradability: No applicable information available

Bioaccumulation potential: No applicable information available.

Mobility in soil: No applicable information available.

Other Adverse Environmental effects: No applicable information available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Handling for disposal: Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. Empty containers retain residue (liquid and/or vapour) and can be dangerous.

Methods of disposal: Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.

RCRA: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste UN defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14 - TRANSPORTATION INFORMATION

Special Shipping Information: Keep from freezing.

T.D.G. Classification: UN1987, FLAMMABLE LIQUIDS, N.O.S. (Ethanol Hand Sanitizer), Class 3 PG III

SECTION 15 - REGULATORY INFORMATION

TSCA information: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

SECTION 16 - OTHER INFORMATION

Legend:

ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
CSA: Canadian Standards Association
DOT: Department of Transportation
ECOTOX: U.S. EPA Ecotoxicology Database
EINECS: European Inventory of Existing Commercial chemical Substances
EPA: Environmental Protection Agency
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
IUCLID: International Uniform Chemical Information Database
LC: Lethal Concentration
LD: Lethal Dose
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OECD: Organization for Economic Co operation and Development
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
RCRA: Resource Conservation and Recovery Act
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
SDS: Safety Data Sheet Material Safety Data Sheet
STEL: Short Term Exposure Limit
TOG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

Prepared By: Charlotte Technical Services Group

Tel: (705) 740 2880

DISCLAIMER

Information for this material safety data sheet was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of this supplier, it is assumed that users of this material have been fully trained accordingly to the mandatory requirements of GHS. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of, or reliance on, any information contained within this form.

END OF DOCUMENT



SAFETY DATA SHEET

1. Identification

Product identifier SHEETROCK® Brand EASY SAND™ Lightweight Setting-Type Joint Compound, 5, 20, 45, 90, 210

Other means of identification

SDS number 61000030002

Synonyms Joint Compound, Finishing Compound, Taping Compound, Mud

Recommended use Interior use.

Recommended restrictions Use in accordance with manufacturer's recommendations.

Manufacturer/Importer/Supplier/Distributor information

Company name United States Gypsum Company

Address 550 West Adams Street
Chicago, Illinois 60661-3637

Telephone 1-800-874-4968

Website www.usg.com

Emergency phone number 1-800-507-8899

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Carcinogenicity (inhalation) Category 1A
Specific target organ toxicity, repeated exposure Category 2 (Lung)

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement May cause cancer by inhalation. May cause damage to organs (Lung) through prolonged or repeated exposure.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Wear protective gloves/protective clothing/eye protection/face protection.

Response If exposed or concerned: Get medical advice/attention.

Storage Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Plaster of Paris (Calcium sulfate hemihydrate CAS 10034-76-1)	26499-65-0	< 60
Limestone (calcium carbonate CAS 1317-65-3 or dolomitic CAS 16389-88-1)	1317-65-3 or 16389-88-1	< 50

Chemical name	CAS number	%
Attapulgite	12174-11-7	< 10
Perlite	93763-70-3	< 10
Calcium sulfate dihydrate	13397-24-5	< 2

Impurities

Chemical name	Common name and synonyms	CAS number	%
Crystalline silica (Quartz)		14808-60-7	< 1.5

Composition comments

All concentrations are in percent by weight.

Raw materials in this product contain respirable crystalline silica as an impurity. The weight percent of respirable crystalline silica found in this product is < 1.5%. Exposures to respirable crystalline silica during the normal use of this product must be determined by workplace hygiene testing.

4. First-aid measures

Inhalation

Dust irritates the respiratory system, and may cause coughing and difficulties in breathing. Move injured person into fresh air and keep person calm under observation. Get medical attention if symptoms persist.

Skin contact

Contact with dust: Rinse area with plenty of water. Get medical attention if irritation develops or persists.

Eye contact

Dust in the eyes: Do not rub eyes. Flush thoroughly with water. If irritation occurs, get medical assistance.

Ingestion

Plaster of Paris hardens and if ingested may result in stomach and intestinal blockage. Drinking gelatin solutions or large volumes of water may delay setting.

Most important symptoms/effects, acute and delayed

Dust may irritate throat and respiratory system and cause coughing. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

General information

Ensure that medical personnel are aware of the material(s) involved.

5. Fire-fighting measures

Suitable extinguishing media

Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media

Not applicable.

Specific hazards arising from the chemical

Not a fire hazard.

Special protective equipment and precautions for firefighters

Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions

Use standard firefighting procedures and consider the hazards of other involved materials.

Specific methods

Cool material exposed to heat with water spray and remove it if no risk is involved.

General fire hazards

No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

See Section 8 of the SDS for Personal Protective Equipment.

Methods and materials for containment and cleaning up

Vacuum up the spilled material. Vacuums used for this purpose should be equipped with HEPA filters. Containers must be labeled. Collect in approved containers and seal securely. For waste disposal, see Section 13 of the SDS.

Environmental precautions

Avoid discharge to drains, sewers, and other water systems.

7. Handling and storage

Precautions for safe handling

Minimize dust production when mixing, sanding, or opening and closing bags. Avoid inhalation of dust. Wear appropriate personal protective equipment. Wash hands after handling. Observe good industrial hygiene practices and use appropriate lifting techniques.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated place. Store away from incompatible materials. Avoid contact with acids, water, and moisture.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Impurities	Type	Value
Crystalline silica (Quartz) (CAS 14808-60-7)	TWA	0.05 mg/m3

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Calcium sulfate dihydrate (CAS 13397-24-5)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Limestone (calcium carbonate CAS 1317-65-3 or dolomitic CAS 16389-88-1)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Plaster of Paris (Calcium sulfate hemihydrate CAS 10034-76-1) (CAS 26499-65-0)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Perlite (CAS 93763-70-3)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

Impurities	Type	Value	Form
Crystalline silica (Quartz) (CAS 14808-60-7)	TWA	0.1 mg/m3	Respirable.
		2.4 mppcf	Respirable.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Calcium sulfate dihydrate (CAS 13397-24-5)	TWA	10 mg/m3	Inhalable fraction.
Plaster of Paris (Calcium sulfate hemihydrate CAS 10034-76-1) (CAS 26499-65-0)	TWA	10 mg/m3	Inhalable fraction.

Impurities	Type	Value	Form
Crystalline silica (Quartz) (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Calcium sulfate dihydrate (CAS 13397-24-5)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
Limestone (calcium carbonate CAS 1317-65-3 or dolomitic CAS 16389-88-1)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Perlite (CAS 93763-70-3)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
Plaster of Paris (Calcium sulfate hemihydrate CAS 10034-76-1) (CAS 26499-65-0)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
Impurities	Type	Value	Form
Crystalline silica (Quartz) (CAS 14808-60-7)	TWA	0.05 mg/m3	Respirable dust.

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Provide sufficient ventilation for operations causing dust formation. Observe occupational exposure limits and minimize the risk of exposure. We recommend using wet sanding or vacuum sanding practices to reduce dust exposure.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear approved safety goggles.
Skin protection	
Hand protection	It is a good industrial hygiene practice to minimize skin contact. For prolonged or repeated skin contact use suitable protective gloves.
Skin protection	
Other	Normal work clothing (long sleeved shirts and long pants) is recommended.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.
Thermal hazards	None.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment separately from regular wash. Observe any medical surveillance requirements.

9. Physical and chemical properties**Appearance**

Physical state	Solid.
Form	Powder.
Color	White to off-white.

Odor Low to no odor.

Odor threshold Not applicable.

pH 7.5 - 9.9

Melting point/freezing point Not applicable.

Initial boiling point and boiling range 212 °F (100 °C)

Flash point Not applicable.

Evaporation rate Not applicable.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not applicable.

Flammability limit - upper (%) Not applicable.

Explosive limit - lower (%) Not applicable.

Explosive limit - upper (%) Not applicable.

Vapor pressure Not applicable.

Vapor density Not applicable.

Relative density	0.6 - 0.7 (H ₂ O=1)
Solubility(ies)	
Solubility (water)	Slightly.
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Viscosity	Not applicable.
Other information	
Bulk density	35 - 45 lb/ft ³
VOC	None detected.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	When mixed with water this product can become very hot. Encasing or making moulds of any body part can cause serious burns that may require surgical removal of affected tissue and even amputation of encased body part.
Incompatible materials	Acids.
Hazardous decomposition products	Calcium oxides. Sulfur oxides. Silicon oxides. Above 1472°F (800°C) limestone (CaCO ₃) can decompose to lime (CaO) and release carbon dioxide (CO ₂).

11. Toxicological information

Information on likely routes of exposure

Inhalation	Inhalation of dusts may cause respiratory irritation. Prolonged and repeated exposure to airborne respirable crystalline silica can cause silicosis and/or lung cancer.
Skin contact	Under normal conditions of intended use, this product does not pose a skin hazard.
Eye contact	Direct contact with airborne particulates may cause temporary irritation.
Ingestion	Ingestion may cause irritation and stomach discomfort.

Symptoms related to the physical, chemical and toxicological characteristics	Dust may irritate eyes and mucous membranes of the nose, throat and upper respiratory system causing sneezing and/or coughing.
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Information on toxicological effects

Acute toxicity	Not expected to be a hazard under normal conditions of intended use.
Skin corrosion/irritation	Prolonged or repeated skin contact may cause drying, cracking, or irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	Not a skin sensitizer. Plaster of Paris has displayed little sensitization potential.
Germ cell mutagenicity	Data does not suggest that this product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Repeated and prolonged exposure to high levels of respirable crystalline silica may cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Attapulgit (CAS 12174-11-7)	2B Possibly carcinogenic to humans.
Crystalline silica (Quartz) (CAS 14808-60-7)	3 Not classifiable as to carcinogenicity to humans.
	1 Carcinogenic to humans.

NTP Report on Carcinogens

Crystalline silica (Quartz) (CAS 14808-60-7)	Known To Be Human Carcinogen.
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OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Crystalline silica (Quartz) (CAS 14808-60-7)	Cancer
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Reproductive toxicity	Not expected to be a reproductive hazard.
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Specific target organ toxicity - single exposure	No data available, but none expected.
Specific target organ toxicity - repeated exposure	May cause damage to organs (lung) through prolonged or repeated exposure.
Aspiration hazard	Due to the physical form of the product it is not an aspiration hazard.
Chronic effects	Prolonged and routine inhalation of high levels of respirable crystalline silica particles can lead to the lung disease known as silicosis. Some studies show excess numbers of cases of scleroderma, connective tissue disorders, lupus, rheumatoid arthritis, chronic kidney diseases and end-stage kidney disease in workers exposed to respirable crystalline silica. Pre-existing skin and respiratory conditions including dermatitis, asthma and chronic lung disease might be aggravated by exposure. Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled.
Further information	No additional adverse health effects noted.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
Calcium sulfate dihydrate (CAS 13397-24-5)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) > 1970 mg/l, 96 hours
Plaster of Paris (Calcium sulfate hemihydrate CAS 10034-76-1) (CAS 26499-65-0)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) > 1970 mg/l, 96 hours

Persistence and degradability Calcium sulfate dissolves in water forming calcium and sulfate ions.

Bioaccumulative potential Bioaccumulation is not expected.

Mobility in soil No data available.

Other adverse effects None expected.

13. Disposal considerations

Disposal instructions Dispose in accordance with applicable federal, state, and local regulations. Recycle responsibly.

Local disposal regulations Dispose of in accordance with local regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose in accordance with local regulations.

Contaminated packaging Dispose of in accordance with local regulations.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Crystalline silica (Quartz) (CAS 14808-60-7)	Cancer lung effects immune system effects kidney effects
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Toxic Substances Control Act (TSCA)

All components on the TSCA 8(b) inventory are designated "active" or are exempt from reporting under the Inventory Update Rule.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

Classified hazard categories	Carcinogenicity Specific target organ toxicity (single or repeated exposure)
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SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Calcium sulfate dihydrate (CAS 13397-24-5)
Crystalline silica (Quartz) (CAS 14808-60-7)
Limestone (calcium carbonate CAS 1317-65-3 or dolomitic CAS 16389-88-1) (CAS 1317-65-3 or 16389-88-1)
Perlite (CAS 93763-70-3)
Plaster of Paris (Calcium sulfate hemihydrate CAS 10034-76-1) (CAS 26499-65-0)

US. New Jersey Worker and Community Right-to-Know Act

Calcium sulfate dihydrate (CAS 13397-24-5)
Crystalline silica (Quartz) (CAS 14808-60-7)
Limestone (calcium carbonate CAS 1317-65-3 or dolomitic CAS 16389-88-1) (CAS 1317-65-3 or 16389-88-1)
Perlite (CAS 93763-70-3)
Plaster of Paris (Calcium sulfate hemihydrate CAS 10034-76-1) (CAS 26499-65-0)

US. Pennsylvania Worker and Community Right-to-Know Law

Calcium sulfate dihydrate (CAS 13397-24-5)
Crystalline silica (Quartz) (CAS 14808-60-7)
Limestone (calcium carbonate CAS 1317-65-3 or dolomitic CAS 16389-88-1) (CAS 1317-65-3 or 16389-88-1)
Perlite (CAS 93763-70-3)
Plaster of Paris (Calcium sulfate hemihydrate CAS 10034-76-1) (CAS 26499-65-0)

US. Rhode Island RTK

Calcium sulfate dihydrate (CAS 13397-24-5)
Crystalline silica (Quartz) (CAS 14808-60-7)
Limestone (calcium carbonate CAS 1317-65-3 or dolomitic CAS 16389-88-1) (CAS 1317-65-3 or 16389-88-1)

California Proposition 65



WARNING: This product can expose you to chemicals including Attapulgite, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Attapulgite (CAS 12174-11-7)	Listed: December 28, 1999
Crystalline silica (Quartz) (CAS 14808-60-7)	Listed: October 1, 1988

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Attapulgite (CAS 12174-11-7)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	No
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 31-December-2013

Revision date 24-March-2021

Version # 04

Further information

Crystalline silica: Raw materials in this product contain respirable crystalline silica as an impurity. Exposures to respirable crystalline silica are not expected during the normal use of this product. However, actual levels must be determined by workplace hygiene testing. Prolonged and repeated exposure to airborne free respirable crystalline silica can result in lung disease (i.e., silicosis) and/or lung cancer.

Attapulgite: Carcinogenic to experimental animals via a route of exposure not relevant to human exposure per ACGIH.

Plaster of Paris: Is classified as a hazardous substance but is generally considered a safe material for routine use. When plaster of Paris is used responsibly it is not considered as a dangerous material. However, when mixed with water this product can become very hot. DO NOT attempt to make a cast enclosing any part of the body. Encasing any body part can cause serious burns and even amputation of the encased body part.

NFPA Ratings:
Health: 1
Flammability: 0
Physical hazard: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

NFPA ratings**Disclaimer**

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.

MATERIAL SAFETY DATA SHEET

7/6/2013

MANUFACTURER OR DISTRIBUTOR: Jack Richeson & Co., Inc.
557 S. Marcella Street
PO BOX 160
Kimberly, Wisconsin 54136-1760

INFORMATION TELEPHONE NUMBER: 920-738-0744
EMERGENCY TELEPHONE NUMBER: 800-233-2404

SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: SHIVA LINSEED OIL
PRODUCT SIZES: 74, 236, 473, 950ML
PRODUCT CLASS: ALKYD PAINTING MEDIUMS (LIQUID)

PRODUCT NUMBER: S8014
BRAND NAME: SHIVA LINSEED OIL

SECTION II - HAZARDOUS INGREDIENTS

<u>Ingredient</u>	<u>CAS #</u>	<u>PEL/TLV (MG/M#)</u>	<u>Max % Weight</u>	<u>NTP</u>	<u>IARC</u>
None					

SECTION III - PHYSICAL AND CHEMICAL CHARACTERISTICS

BOILING POINT: N/A
VAPOR PRESSURE: N/A
SPECIFIC VAPOR DENSITY (AIR=1): N/A
SOLUBILITY IN WATER: N/A
APPEARANCE AND ODOR:

MELTING POINT: N/A
SPECIFIC GRAVITY: N/A
REACTIVITY IN WATER: NON-REACTIVE

SECTION IV - FIRE AND EXPLOSION INFORMATION

FLASH POINT (METHOD): N/A
EXPLOSION LIMITS IN AIR (% BY VOLUME): NOT EXPLOSIVE
EXTINGUISHING MEDIA: NO SPECIAL MEDIA REQUIRED
FIRE FIGHTING PROCEDURES: NO SPECIAL FIRE FIGHTING PROCEDURES REQUIRED
UNUSUAL FIRE & EXPLOSION HAZARDS: RAGS, STEEL WOOL OR WASTE SOAKED WITH THIS PRODUCT MAY SPONTANEOUSLY CATCH FIRE IF IMPROPERLY DISCARDED. Rags or waste paper soaked with this material can burn spontaneously. Store in sealed metal container. Dispose of under water or by hanging out to dry.

AUTOIGNITION TEMPERATURE: N/A

SECTION V - PHYSICAL HAZARDS/REACTIVITY

HAZARDOUS POLYMERIZATION PRODUCTS: NONE
STABILITY: STABLE CONDITIONS TO AVOID: NONE
INCOMPATIBILITY (MATERIALS TO AVOID): NONE
HAZARDOUS DECOMPOSITION PRODUCTS: NONE

SECTION VI - HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL: SEE SECTION II FOR COMPONENT PEL/TLVs

COMPANY: Jack Richeson & Co., Inc.
PRODUCT: S8014
BRAND NAME: SHIVA LINSEED OIL

7/6/2013

PRIMARY ROUTES OF ENTRY: INHALATION, INGESTION, EYE, SKIN
EFFECTS AND SYMPTOMS OF ACUTE EXPOSURE: NONE EXPECTED
EFFECTS AND SYMPTOMS OF CHRONIC EXPOSURE: NONE EXPECTED
CARCINOGEN LISTING: NTP: NO IARC: NOOSHA: NO
SEE SECTION II FOR COMPONENTS AFFECTED
MEDICAL CONDITIONS USUALLY AGGRAVATED BY OVER EXPOSURE TO THIS PRODUCT: NONE
FIRST AID MEASURES: NONE REQUIRED. NO ACUTE HEALTH EFFECTS EXPECTED.

SECTION VII - SPILL OR LEAK PROCEDURES

PRECAUTIONS TO BE TAKEN DURING STORAGE AND HANDLING: NO SPECIAL PRECAUTIONS REQUIRED.
STEPS TO BE TAKEN IN CASE A MATERIAL IS SPILLED: NO SPECIAL SPILL PROCEDURES REQUIRED.
WASTE DISPOSAL METHOD: DISPOSE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION VIII - PROTECTIVE EQUIPMENT/CONTROL MEASURES

RESPIRATORY PROTECTION AND SPECIAL VENTILATION REQUIREMENTS: NONE REQUIRED
OTHER PROTECTIVE EQUIPMENT (GLOVES, GOGGLES, ETC): Immediately after use, place soiled material in a sealed water-filled metal container.
WORK/HYGIENE PRACTICES: NONE REQUIRED

SECTION IX - ADDITIONAL INFORMATION AND WARNINGS

THIS INFORMATION SHEET IS FOR CONSUMER USE ONLY.
ADDITIONAL INFORMATION AND WARNINGS: NONE REQUIRED

Woodhall Stopford, MD, MSPH 7/6/2013

TRADENAME: SHOPRITE BLEACH



Material Safety Data Sheet

Regular Bleach

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name	Regular Bleach
Reference Number	40000023
Company	KIK Custom Products 33 MacIntosh Blvd. Concord, Ontario L4K 4L5 T: 905-660-0444
24 Hour Emergency Contact	1-800-255-3924
Prepared By	Product Development KIK Classic Division
Revised Date	August 16, 2012

SECTION 2: HAZARD IDENTIFICATION

General Advice: May cause substantial but temporary eye and skin irritation. If irritation occurs, consult a physician. Keep out of reach of children and pets.

Routes of Exposure: Eyes, Skin, Inhalation, Ingestion

Potential Health Effects:

Eyes: May cause substantial but temporary eye injury.

Skin: May cause skin irritation.

Inhalation: Inhalation of vapors may irritate nose, throat and lungs.

Ingestion: May cause nausea and vomiting.

Target organs: Eyes, Skin, Respiratory system.

Chronic effects: Not known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Concentration %	CAS No.	Worker Exposure Limit	LC50/ LD 50 Oral (Rat)
Sodium Hypochlorite	5 - 7	7681-52-9	2 mg/m ³ - PEL*	Not available
Sodium Hydroxide	<1	1310-73-2	2 mg/m ³ -TLV-C*	Not available

* PEL = OSHA Permissible Exposure Limit

* TLV-C = ACGIH Threshold Limit Value - Ceiling

Regular Bleach

SECTION 4: FIRST AID MEASURES

Eyes: Flush eyes with cool running water holding eyelids apart to ensure thorough rinsing for at least 15 minutes. Remove contact lenses after first few minutes of rinsing and then continue the rinsing. See a physician immediately.

Skin: Remove contaminated clothing. Wash skin with soap and water for at least 15 minutes. If irritation occurs, consult a physician.

Inhalation: Move to fresh air and restore breathing if required.

Ingestion: DO NOT INDUCE VOMITING! Drink 1 or 2 glasses of water. Do not give anything by mouth to a convulsing or unconscious person. See a physician immediately.

SECTION 5: FIRE FIGHTING MEASURES

This product is neither flammable nor explosive.

Suitable extinguishing media: Treat for surrounding material.

Protective equipment for fire-fighters: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Always contain all types of spills. Be sure to wear protective equipment (see Section 8)

Leak and Spill Procedure: Dilute product by flooding area with large quantity of water and flush to sanitary sewer.

Large Spills: Contain run-off by diking with suitable material. Soak up liquid on inert absorbent and transfer to approved container for disposal by approved methods. Use a water rinse for final clean-up.

Personal Protection in Case of Large Spill: safety glasses, boots and gloves.

Regular Bleach

SECTION 7: HANDLING AND STORAGE

Handling: Use only as directed. Avoid any contact with eyes, skin and clothing. When using, do not eat or drink.

Storage: Store in a cool, dry and well-ventilated area away from direct sunlight and heat to avoid deterioration. Always keep the container upright and tightly capped at all times. KEEP OUT OF REACH OF CHILDREN AND PETS.

Incompatibility: Acids, ammonia, urea, metals & oxidizers.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Household Setting

Eyes Protection – None for consumer use conditions.

Hand Protection – None for consumer use conditions. Use gloves for sensitive skin.

Footwear – Protect shoes and feet when using product for floor cleaning..

Respiratory protection – Not normally required.

Industrial Setting

Eyes Protection – Wear splash-resistant chemical safety glasses.

Hand Protection – Use suitable gloves.

Footwear – Protect shoes and feet when using product for floor cleaning.

Respiratory protection – No special requirements needed.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Form	: Liquid
Appearance	: Clear
Color	: Pale Yellow
Odor	: Bleach
pH	: 12.6 maximum
Specific Gravity	: 1.08 minimum (water = 1)
Viscosity	: Not available
Water Solubility	: Complete
Boiling Point	: Not available
Melting Point	: Not available
Freezing point	: Not available

Regular Bleach

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability: Stable under normal use and storage conditions.

Conditions to avoid: Temperature above 40°C, sunlight and metals.

Materials to avoid: Acids, ammonia, urea, metals & oxidizers.

Reactivity: Reacts with other household products containing such chemicals as acids, rust removers, urea or ammonia to produce hazardous gases such as chlorine and other chlorinated species. Oxygen is released on contact with metals. Extended contact with metals may cause discoloration or pitting

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicity Effects: Not available

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity Effects: Not available

SECTION 13: DISPOSAL CONSIDERATIONS

Reclaim or dispose in accordance with local regulations.

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT and Canadian TDG land Transportation

DOT: Not Restricted

IMDG Sea Transport

Class: 9

UN: UN3082

Proper Shipping Name: Environmentally Hazardous Substance Liquid, N.O.S. (Sodium Hypochlorite)

Packaging Group: III

Marine Pollutant: Sodium Hypochlorite

SECTION 15: REGULATORY INFORMATION

WHMIS (Canada): Not a WHMIS controlled product.

Regular Bleach

SECTION 16: OTHER INFORMATION**HMIS Ratings**

Health : 2
Flammability : 0
Reactivity : 1

NFPA Ratings

Health : 2
Flammability : 0
Reactivity : 1

Created By: Mitul Bhandari	Date: 8/16/12
Approved By: Eden Mercado	Date: 8/16/12

As the handling and use of this product are beyond our control, no warranty, expressed or implied is made concerning this product. The information contained here is offered only as a guide and is not intended to be all-inclusive in the manner and conditions of use and handling. The user assumes all risks of use or handling whether or not in accordance with any directions or suggestions of the manufacturer. Manufacturer shall not be liable to purchaser or any other person for loss or damages directly or indirectly arising from the use of our product.

1. IDENTIFICATION

Product identifier

Product Name Shop Rite Clear Ammonia

Other means of identification

Product UPC 41190-00294

Product Code 19706765031

Recommended use of the chemical and restrictions on use

Recommended Use Consumer use. Cleaning agent.

Uses advised against Do not mix with other chemicals

Details of the supplier of the safety data sheet

Manufacturer Address

KIK International LLC
33 Macintosh Blvd.
Concord, Ontario
Canada L4K 4L5
1-800-479-6603

Distributor

WAKEFERN FOOD CORP.
5000 RIVERSIDE DRIVE
KEASBEY, NJ 08832
1-800-SHOPRITE

Emergency telephone number

Emergency Telephone Poison Control Center (Medical) : (866) 366-5048
Chemtel (Transportation) 1-888-255-3924

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

Label elements

Emergency Overview

Danger

Hazard statements

Causes severe skin burns and eye damage



Color colorless

Physical state liquid

Odor Ammonia

Precautionary Statements - Prevention

Do not breathe dust/fume/gas/mist/vapors/spray

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Keep out of reach of children. Store in a well-ventilated place. Store in a closed container.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

0.17727% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical Name	CAS No.	Weight-%
Ammonia	7664-41-7	1 - 3

4. FIRST AID MEASURES

Description of first aid measures

Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	Wash skin with soap and water. If symptoms persist, call a physician.
Inhalation	Remove to fresh air.
Ingestion	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. If symptoms persist, call a physician.
Self-protection of the first aider	Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical

No information available.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes or clothing. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials Chlorine-based bleaching agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ammonia 7664-41-7	STEL: 35 ppm TWA: 25 ppm	TWA: 50 ppm TWA: 35 mg/m ³ (vacated) STEL: 35 ppm (vacated) STEL: 27 mg/m ³	IDLH: 300 ppm TWA: 25 ppm TWA: 18 mg/m ³ STEL: 35 ppm STEL: 27 mg/m ³

NIOSH IDLH *Immediately Dangerous to Life or Health*

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls
Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid	Odor	Ammonia
Appearance	clear	Odor threshold	No information available
Color	colorless		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	11.5-12.0	
Melting point/freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	No information available	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	0.99 - 1.00	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Density	No information available	
Bulk density	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Do not mix with other chemicals. Extremes of temperature and direct sunlight.

Incompatible materials

Chlorine-based bleaching agents.

Hazardous Decomposition Products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	Avoid breathing vapors or mists.
Eye contact	Avoid contact with eyes. May cause burns.
Skin contact	Avoid contact with skin. May cause burns.
Ingestion	May be harmful if swallowed.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Ammonia 7664-41-7	= 350 mg/kg (Rat)	-	= 2000 ppm (Rat) 4 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Target Organ Effects	Eyes, Respiratory system, Skin.
Aspiration hazard	No information available.

Numerical measures of toxicity - Product Information

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects

0.20766% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Ammonia 7664-41-7	-	0.44: 96 h Cyprinus carpio mg/L LC50 0.26 - 4.6: 96 h Lepomis macrochirus mg/L LC50 1.17: 96 h Lepomis macrochirus mg/L LC50 flow-through 0.73 - 2.35: 96 h Pimephales promelas mg/L LC50 5.9: 96 h Pimephales promelas mg/L LC50 static 1.5: 96 h Poecilia reticulata mg/L LC50 1.19: 96 h Poecilia reticulata mg/L LC50 static	25.4: 48 h Daphnia magna mg/L LC50

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Mobility

No information available.

Chemical Name	Partition coefficient
Ammonia 7664-41-7	-1.14

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container. Dispose of in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL/NDSL Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Ammonia - 7664-41-7	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No

Reactive Hazard

No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Ammonia 7664-41-7	100 lb	-	-	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Ammonia 7664-41-7	100 lb	100 lb	RQ 100 lb final RQ RQ 45.4 kg final RQ

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Ammonia 7664-41-7	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number This product does not contain any substances regulated as pesticides

Difference between SDS and CPSC label

This product is regulated under Consumer Product Safety Commission and is subject to certain labeling requirements under the Federal Hazardous Substances Act (16 CFR Part 1500) . These requirements differ from the classification criteria and hazard information required for safety data sheets and for workplace product labels.

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION
--

<u>NFPA</u>	Health hazards 2	Flammability 0	Instability 0	Physical and Chemical Properties -
<u>HMIS</u>	Health hazards 2	Flammability 0	Physical hazards 0	Personal protection B

Prepared By Regulatory Affairs
 Revision Date 25-Apr-2015
 Revision Note No information available

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Product Number: A00AA
Issuing Date: August 13, 2015

Revision Date: None

Product Name: Isopropyl Alcohol 99%
Revision Number: 0



VI·JON[®] Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier SHOPRITE ISOPROPYL ALCOHOL

Product Name: Isopropyl Alcohol 99%

Item Number: A00AA

Other means of identification

Synonyms: None

Recommended use of the chemical and restrictions on use

Recommended Use: First Aid

Uses advised against: Use only as directed.

Details of the supplier of the safety data sheet

Supplier Address

Vi-Jon Inc.

8800 Page Avenue

Saint Louis

MO

63114

US

Phone: 314-427-1000 (M-F 8am-4pm CST)

Fax: 314-427-1010

Emergency telephone number Chemtrec: 1-800-424-9300 (24-Hour)

Product Number: A00AA
Issuing Date: August 13, 2015

Revision Date: None

Product Name: Isopropyl Alcohol 99%
Revision Number: 0

2. HAZARDS IDENTIFICATION


Classification

This product contains a chemical or chemicals considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.122).

Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 2

GHS Label elements, including precautionary statements

Emergency Overview

Signal word:	Danger
Hazard statements May cause drowsiness or dizziness Causes serious eye irritation Highly flammable liquid and vapor	
	
Appearance: Clear, Colorless, Water thin liquid	Physical State: Water thin liquid
	Odor: Alcohol

Precautionary Statements - Prevention

Wear protective gloves/protective clothing/eye protection/face protection
Avoid breathing fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/equipment
Use only non-sparking tools
Take precautionary measures against static discharge

Precautionary Statements - Response

No information available.

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.

Fire

In case of fire: Use CO2, dry chemical, or foam for extinction.

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Product Number: A00AA
Issuing Date: August 13, 2015

Revision Date: None

Product Name: Isopropyl Alcohol 99%
Revision Number: 0

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC)

Not Applicable

Unknown Toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity

Other information

May be harmful if swallowed

May be harmful if inhaled

Prolonged or repeated contact may dry skin and cause irritation

Interactions with Other Chemicals

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade Secret
Isopropyl Alcohol	67-63-0	50-100	*
Water	7732-18-5	0-10	*

* The exact percentage (concentration) of composition has been withheld as a trade secret

4. FIRST AID MEASURES

First aid measures

Eye Contact

In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.

Skin Contact

In the case of skin irritation or allergic reactions see a physician.

Inhalation

Move victim to fresh air. Apply artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.

Ingestion

Do NOT induce vomiting. Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person. Consult a physician.

Protection of First-aiders

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms/Effects

Eye irritation. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

Indication of any immediate medical attention and special treatment needed

Notes to Physician

Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Dry chemical, CO₂, water spray, fog or alcohol-resistant foam.

Unsuitable Extinguishing Media

CAUTION: This product has a very low flash point. Use of water spray when fighting fire may be inefficient. Do not use straight streams.

Specific Hazards Arising from the Chemical

Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard.

Uniform Fire Code

Flammable Liquid: I-B
Irritant: Liquid

Hazardous Combustion Products

Carbon oxides.

Explosion Data

Sensitivity to Mechanical Impact No

Sensitivity to Static Discharge Yes

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Move containers from fire area if you can do it without risk.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Ventilate area with explosion-proof equipment. Do not touch or walk through spilled material. Stop leak if you can do it without risk.

Other Information

Water spray may reduce vapor; but may not prevent ignition in closed spaces.

Environmental precautions

Environmental Precautions

Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for Containment

A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Methods for Cleaning Up

Soak up with inert absorbent material. Use clean non-sparking tools to collect absorbed material and transfer to properly labeled containers. Keep in suitable and closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists. Keep away from heat, sparks and open flame. No smoking.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers

Incompatible Products Strong oxidizing agents. Acids. Chlorinated compounds.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Isopropyl Alcohol 67-63-0	STEL: 400 ppm TWA: 200 ppm	TWA: 400 ppm TWA: 980 mg/m ³ (vacated) TWA: 400 ppm (vacated) TWA: 980 mg/m ³ (vacated) STEL: 500 ppm (vacated) STEL: 1225 mg/m ³	IDLH: 2000 ppm 10% LEL TWA: 980 mg/m ³ TWA: 400 ppm STEL: 500 ppm STEL: 1225 mg/m ³

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health.

Other Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992). See section 15 for national exposure control parameters.

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection Tightly fitting safety goggles.

Skin and Body Protection Wear protective gloves/clothing. Antistatic boots

Respiratory Protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Provide regular cleaning of equipment, work area and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical State	Water thin liquid	Odor	Alcohol
Appearance	Clear, Colorless, Water thin liquid	Odor Threshold	No information available
Color	Colorless	Remarks/ Method	
Property	Values		
pH	No data available	None known	
Melting/freezing point	No data available	None known	
Boiling Point/Range	No data available	None known	
Flash Point	12C / 54F	None known	
Evaporation rate	No data available	None known	
Flammability (solid, gas)	No data available	None known	
Flammability Limits in Air			
Upper flammability limit	No data available		
Lower flammability limit	No data available		
Vapor pressure	No data available	None known	
Vapor density	No data available	None known	
Specific Gravity	No data available	None known	
Water Solubility	Miscible with water	None known	
Solubility in other solvents	No data available	None known	
Partition coefficient: n-octanol/water		None known	
Autoignition temperature	No data available	None known	
Decomposition temperature	No data available	None known	
Kinematic viscosity	No data available	None known	
Dynamic viscosity		None known	
Explosive Properties	No data available		
Oxidizing Properties	No data available		
Other Information			
Softening Point	No data available		
VOC Content (%)	No data available		
Particle Size	No data available		
Particle Size Distribution	No data available		

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization

Hazardous polymerization does not occur.

Conditions to avoid

Heat, flames and sparks.

Incompatible materials

Strong oxidizing agents. Acids. Chlorinated compounds.

Hazardous Decomposition Products

Carbon oxides.

When used in accordance with the directions.

11. TOXICOLOGICAL INFORMATION

There is no data for this product. The information included in this section describes the potential hazards of the individual ingredients.

Information on likely routes of exposure

Product Information

Inhalation May cause drowsiness and dizziness.
Eye Contact Irritating to eyes.
Skin Contact There is no data available for this product.
Ingestion There is no data available for this product.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Isopropyl Alcohol 67-63-0	= 4396 mg/kg (Rat)	= 12800 mg/kg (Rabbit)	= 16000 ppm (Rat) 8 h

Information on toxicological effects

Symptoms Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Isopropyl Alcohol 67-63-0		Group 3		X

*IARC: (International Agency for Research on Cancer)
 Group 3 - Not Classifiable as to Carcinogenicity in Humans
 OSHA: (Occupational Safety & Health Administration)
 X - Present*

Reproductive Toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Chronic Toxicity No known effect based on information supplied.
Target Organ Effects Eyes. Respiratory system. Skin. Central nervous system (CNS).
Aspiration Hazard No information available.

Numerical measures of toxicity Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)
 4,440.00 mg/kg
ATEmix (dermal)
 12,929.00 mg/kg (ATE)
ATEmix (inhalation-dust/mist)
 16,162.00ATEmix

Product Number: A00AA
Issuing Date: August 13, 2015

Revision Date: None

Product Name: Isopropyl Alcohol 99%
Revision Number: 0

12. ECOLOGICAL INFORMATION

There is no ecological data on the Product. The Product ingredients are expected to be safe for the environment at concentrations predicted under normal use and accidental spill scenarios. Packaging components are compatible with the conventional solid waste management practices.

Ecotoxicity

No information available.

Persistence and Degradability

No information available.

Bioaccumulation

No information available.

Other Adverse Effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Methods

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261).

Contaminated Packaging

Dispose of in accordance with local regulations.

US EPA Waste Number

D001

California Hazardous Waste Codes

212

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste
Isopropyl Alcohol 67-63-0	Toxic Ignitable

Product Number: A00AA
Issuing Date: August 13, 2015

Revision Date: None

Product Name: Isopropyl Alcohol 99%
Revision Number: 0

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name CONSUMER COMMODITY
Hazard Class ORM-D
Description CONSUMER COMMODITY, ORM-D
Emergency Response Guide Number 129

TDG

UN-No. UN1219
Proper Shipping Name ISOPROPANOL
Hazard Class 3
Packing Group II
Description UN1219, ISOPROPANOL, 3, II

MEX

UN-No. UN1219
Proper Shipping Name ISOPROPANOL
Hazard Class 3
Packing Group II
Description UN1219 ISOPROPANOL, 3, II

ICAO

UN-No. UN1219
Proper Shipping Name ISOPROPANOL
Hazard Class 3
Packing Group II
Description UN1219, ISOPROPANOL, 3, II

IATA

UN-No. UN1219
Proper Shipping Name ISOPROPANOL
Hazard Class 3
Packing Group II
Description UN1219, ISOPROPANOL, 3, II

IMDG/IMO

UN-No. UN1219
Proper Shipping Name ISOPROPANOL
Hazard Class 3
Packing Group II
EmS-No. F-E, S-D
Description UN1219, ISOPROPANOL, 3, II, FP -11C

RID

UN-No. UN1219
Proper Shipping Name ISOPROPANOL
Hazard Class 3
Packing Group II
Classification code F1
Description UN1219 ISOPROPANOL, 3, II

ADR

UN-No. UN1219
Proper Shipping Name ISOPROPANOL
Hazard Class 3
Packing Group II
Classification code F1
Description UN1219 ISOPROPANOL, 3, II

ADN

UN-No. UN1219
Proper Shipping Name ISOPROPANOL
Hazard Class 3
Packing Group II
Classification code F1
Special Provisions 601
Description UN1219 ISOPROPANOL, 3, II
Hazard Labels 3
Limited Quantity 1 L
Ventilation VE01

Product Number: A00AA
Issuing Date: August 13, 2015

Revision Date: None

Product Name: Isopropyl Alcohol 99%
Revision Number: 0

15. REGULATORY INFORMATION

International Inventories

TSCA Exempt
DSL All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any ingredients regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any ingredients regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

U.S. State Regulations

California Proposition 65 - NONE

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Isopropyl Alcohol 67-63-0	X	X	X	X	

International Regulations

Mexico - Grade No information available.

National occupational exposure limits

Chemical Name	Carcinogen Status	Exposure Limits
Isopropyl Alcohol		Mexico: TWA 400 ppm Mexico: TWA 980 mg/m ³ Mexico: STEL 500 ppm Mexico: STEL 1225 mg/m ³

Canada

WHMIS Hazard Class

B2
D2B



Product Number: A00AA
Issuing Date: August 13, 2015

Revision Date: None

Product Name: Isopropyl Alcohol 99%
Revision Number: 0

16. OTHER INFORMATION

NFPA	Health Hazard 2	Flammability 4	Instability 0	Physical and Chemical Hazards - None
HMIS	Health Hazard 2	Flammability 4	Physical Hazard 0	Personal Protection X

Prepared By WERCS Professional Services, LLC
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Issuing Date August 13, 2015

Revision Date None

Revision Note None

General Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Approved and Updated by Vi-Jon, Inc.

Disclaimer:

The information and recommendations contained in the Safety Data Sheet (SDS) are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. The information and recommendations set forth herein are presented in good faith and believed to be correct as of this date hereof.

Vi-Jon, however, makes no representation as to the completeness or accuracy thereof, and information is supplied upon the express condition that the persons receiving the information will be required to make their own determination as to its suitability for their purposes prior to use. In no event will Vi-Jon be responsible for any damages of any nature whatsoever resulting from the use of, reliance upon, or the misuse of this information.

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End of Safety Data Sheet

Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

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Silica Gel

SECTION 1: Identification

Product identifier

Product name: Silica Gel

Product code: KEMSG6030-E

Recommended use of the product and restriction on use

Relevant identified uses: Laboratory chemicals

Uses advised against: Not determined or not applicable.

Reasons why uses advised against: Not determined or not applicable.

Manufacturer or supplier details

Manufacturer:

United States

AquaPhoenix Scientific

860 Gitts Run Road

Hanover

PA 17331

(717) 632-1291

Supplier:

United States

AquaPhoenix Scientific Inc.

860 Gitts Run Road

Hanover

PA 17331

(717) 632-1291

Emergency telephone number:

United States

Emergency Telephone No.: 800-255-3924

SECTION 2: Hazard(s) identification

GHS classification: Not a hazardous substance or mixture

Label elements

Hazard pictograms: None

Signal word: None

Hazard statements: None

Precautionary statements: None

Hazards not otherwise classified: None

SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 1343-98-2	Silicic acid	<100

Additional Information: None

SECTION 4: First aid measures

Description of first aid measures

General notes:

Not determined or not applicable.

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Silica Gel

After inhalation:

Loosen clothing as necessary and position individual in a comfortable position
Maintain an unobstructed airway
Get medical advice/attention if you feel unwell

After skin contact:

Rinse affected area with soap and water
If symptoms develop or persist, seek medical attention

After eye contact:

Rinse/flush exposed eye(s) gently using water for 15-20 minutes
If symptoms develop or persist, seek medical attention

After swallowing:

Rinse mouth thoroughly
Seek medical attention if irritation, discomfort, or vomiting persists

Most important symptoms and effects, both acute and delayed

Acute symptoms and effects:

Not determined or not applicable.

Delayed symptoms and effects:

Not determined or not applicable.

Immediate medical attention and special treatment

Specific treatment:

Not determined or not applicable.

Notes for the doctor:

Not determined or not applicable.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media:

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

Unsuitable extinguishing media:

Not determined or not applicable.

Specific hazards during fire-fighting:

Thermal decomposition can lead to release of irritating gases and vapors

Special protective equipment for firefighters:

Use typical firefighting equipment, self-contained breathing apparatus, special tightly sealed suit

Special precautions:

Carbon monoxide and carbon dioxide may form upon combustion
Heating causes a rise in pressure, risk of bursting and combustion

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation
Ensure air handling systems are operational
Wear protective eye wear, gloves and clothing

Environmental precautions:

Should not be released into the environment

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Silica Gel

Prevent from reaching drains, sewer or waterway

Methods and material for containment and cleaning up:

Wear protective eye wear, gloves and clothing

Sweep or scoop up solid material while minimizing dust generation

Dispose of contents / container in accordance with local regulations

Reference to other sections:

Not determined or not applicable.

SECTION 7: Handling and storage

Precautions for safe handling:

Use only with adequate ventilation.

Avoid breathing dust.

Do not eat, drink, smoke or use personal products when handling chemical substances.

Conditions for safe storage, including any incompatibilities:

Keep container tightly sealed.

Keep container dry.

Store in a cool, well-ventilated area.

SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

Occupational Exposure limit values:

No occupational exposure limits noted for the ingredient(s).

Biological limit values:

No biological exposure limits noted for the ingredient(s).

Information on monitoring procedures:

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls.

Biological monitoring may also be appropriate for some substances.

Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

Personal protection equipment

Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

Skin and body protection:

Select glove material impermeable and resistant to the substance.

Wear appropriate clothing to prevent any possibility of skin contact.

Respiratory protection:

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

General hygienic measures:

Avoid contact with skin, eyes and clothing.

Wash hands before breaks and at the end of work.

Wash contaminated clothing before reuse.

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Silica Gel

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance	White granules/beads
Odor	Odorless
Odor threshold	Not available
pH	Not available
Melting point/freezing point	Not available
Initial boiling point/range	Not available
Flash point (closed cup)	Not available
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Upper flammability/explosive limit	Not available
Lower flammability/explosive limit	Not available
Vapor pressure	Not available
Vapor density	Not available
Density	Not available
Relative density	2.1
Solubilities	Insoluble in water.
Partition coefficient (n-octanol/water)	Not available
Auto/Self-ignition temperature	Not available
Decomposition temperature	Not available
Dynamic viscosity	Not available
Kinematic viscosity	Not available
Explosive properties	Not determined or not available.
Oxidizing properties	Not determined or not available.

Other information

SECTION 10: Stability and reactivity

Reactivity:

Does not react under normal conditions of use and storage.

Chemical stability:

Stable under normal conditions of use and storage.

Possibility of hazardous reactions:

None under normal conditions of use and storage.

Conditions to avoid:

None known.

Incompatible materials:

None known.

Hazardous decomposition products:

None known.

SECTION 11: Toxicological information

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Silica Gel

Acute toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Skin corrosion/irritation

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Serious eye damage/irritation

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Respiratory or skin sensitization

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Carcinogenicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

International Agency for Research on Cancer (IARC): None of the ingredients are listed.

National Toxicology Program (NTP): None of the ingredients are listed.

Germ cell mutagenicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Reproductive toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Specific target organ toxicity (single exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Specific target organ toxicity (repeated exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Aspiration toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Information on likely routes of exposure: No data available.

Symptoms related to the physical, chemical and toxicological characteristics: No data available.

Other information: No data available.

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Silica Gel

SECTION 12: Ecological information

Acute (short-term) toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Chronic (long-term) toxicity

Product data: No data available.

Substance data: No data available.

Persistence and degradability

Product data: No data available.

Substance data: No data available.

Bioaccumulative potential

Product data: No data available.

Substance data: No data available.

Mobility in soil

Product data: No data available.

Substance data: No data available.

Other adverse effects: No data available.

SECTION 13: Disposal considerations

Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities

SECTION 14: Transport information

United States Transportation of dangerous goods (49 CFR DOT)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	
Special precautions for user	None

International Maritime Dangerous Goods (IMDG)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	
Special precautions for user	None

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

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Silica Gel

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	
Special precautions for user	None

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	
Bulk Name	None
Ship type	None
Pollution category	None

SECTION 15: Regulatory information

United States regulations

Inventory listing (TSCA):

1343-98-2	Silicic acid	Listed
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Significant New Use Rule (TSCA Section 5): Not determined.

Export notification under TSCA Section 12(b): Not determined.

SARA Section 311/312 hazards:

Acute	Chronic	Fire	Pressure	Reactive
No	No	No	No	No

SARA Section 302 extremely hazardous substances: Not determined.

SARA Section 313 toxic chemicals: Not determined.

CERCLA: Not determined.

RCRA: Not determined.

Section 112(r) of the Clean Air Act (CAA): Not determined.

Massachusetts Right to Know:

1343-98-2	Silicic acid	Not Listed
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New Jersey Right to Know:

1343-98-2	Silicic acid	Not Listed
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New York Right to Know:

1343-98-2	Silicic acid	Not Listed
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Pennsylvania Right to Know:

1343-98-2	Silicic acid	Not Listed
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California Proposition 65: Not determined.

SECTION 16: Other information

Abbreviations and Acronyms: None

Safety Data Sheet

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Initial preparation date: 03.27.2017

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Silica Gel

Disclaimer:

This product has been classified in accordance with OSHA HCS 2012 guidelines. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation and disposal and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

NFPA: 1-0-0

HMIS: 1-0-0

Initial preparation date: 03.27.2017

Revision date: 12.08.2017

End of Safety Data Sheet

Section 1 Chemical Product and Company Identification

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PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

Boreal Science
399 Vansickle Road
St. Catharines, Ontario
L2S 3T4 Canada
Tel: (800) 387-9393

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product SILICA GEL, INDICATING
Synonyms Synthetic Amorphous Silica Gel, Indicating

Section 2 Hazards Identification

Signal word: DANGER**Pictograms:** GHS07 / GHS08 / GHS09**Target organs:** Skin, Respiratory system, Reproductive system**GHS Classification:**

Skin sensitization (Category 1)
Respiratory sensitization (Category 1)
Carcinogenicity (Category 1B)
Reproductive toxicity (Category 1B)
Aquatic acute (Category 2)
Aquatic chronic (Category 2)

GHS Label information: Hazard statement:

H317: May cause an allergic skin reaction.
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H350: May cause cancer.
H360: May damage fertility or the unborn child.
H401: Toxic to aquatic life.
H411: Toxic to aquatic life with long lasting effects.

Precautionary statement:

P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P261: Avoid breathing dust.
P272: Contaminated work clothing should not be allowed out of the workplace.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P284: Wear respiratory protection.
P302+P352: IF ON SKIN: Wash with plenty of water and soap.
P333+P313: If skin irritation or rash occurs: Get medical attention.
P362+P364: Take off contaminated clothing and wash it before reuse.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
P308+P313: IF exposed or concerned: Get medical attention.
P391: Collect spillage.
P405: Store locked up.
P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 3 Composition/Information on Ingredients

Chemical Name	CAS #	%	EINECS
Synthetic amorphous silica gel	112926-00-8	100%	Not listed
Cobalt chloride	7646-79-9	0.5%	231-589-4

Silica gel is an amorphous form of silica, and has not been defined by the U.S. Department as a hazardous material.

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR BREATHING DIFFICULTIES IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY CAUSE AN ALLERGIC SKIN REACTION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Cobalt and inorganic compounds, as Co	TWA: 0.02 mg/m ³ (A3)	TWA: 0.1 mg/m ³ for metal dust & fume	TWA: 0.05 mg/m ³ for metal dust & fume

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Solid, Desiccant. Blue granules. Odor: No odor. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: 1710°C (3110°F) Boiling point: 2230°C (4046°F) Flash point: Data not available	Evaporation rate (= 1): Data not available Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: Data not available Vapor pressure (mm Hg): Data not available Vapor density (Air = 1): Data not available Relative density (Specific gravity): 2.1 Solubility(ies): Insoluble in water. Absorbs moisture.	Partition coefficient: Data not available Auto-ignition temperature: Data not available Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: Mixture Molecular weight: Mixture
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Section 10 Stability & Reactivity

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Moisture and high humidity.

Incompatible materials: Water, fluorine, oxygen difluoride, chlorine trifluoride.

Hazardous decomposition products: Carbon oxides, water and any materials that were absorbed by the silica gel.

Section 11 Toxicological Information

Acute toxicity: Finely ground Silica: Oral-rat LD50: >31,600 mg/kg/48H ; Dermal-rabbit LD50: >2,000 mg/kg/48H ; Inhalation-rat LC50: >2 mg/L/1H

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC classified: Group 2B: Possibly carcinogenic to humans. [Cobalt and cobalt compounds]

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Slight irritation is possible but none is expected. May cause eye, skin and mucous membrane irritation and drying.

Ingestion: May cause gastrointestinal disturbances such as nausea, vomiting and diarrhea.

Skin: Dust may cause drying of the skin. Silica gel may get hot enough to burn skin as it absorbs moisture.

Eyes: Dust and/or product may cause eye discomfort and irritation seen as tearing and reddening.

Signs and symptoms of exposure: Silica gel is a synthetic amorphous silica not to be confused with crystalline silica. Silica gel acts as a desiccant and can cause a drying irritation of the mucous membranes and skin in cases of severe exposure. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: GG0200000 [Cobalt chloride]

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

UN/NA number: Not applicable

Shipping name: Not Regulated

Reportable Quantity: No

Marine pollutant: No

Hazard class: Not applicable

Packing group: Not applicable

Exceptions: Not applicable

2012 ERG Guide # Not applicable

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL
Silica gel	Listed	Not listed	Not listed	Listed	Not listed
Cobalt chloride	Listed	Not listed	Not listed	Listed	Not listed

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 687.01

Revision Date: March 25, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Silicon

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 5). May be harmful if swallowed (H303).

Hazard class: Serious eye damage or irritation (Category 2B). Causes eye irritation (H320).

For silicon powder please see SDS 687.00

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Silicon lump	7440-21-3	Si	28.09	

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If eye irritation persists: Get medical advice or attention. **If on skin:** Rinse cautiously with water for several minutes.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Combustible solid. Flammable in powder form.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use class D fire extinguisher or dry sand for extinction.

NFPA CODE

None

established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #1. Store with metals and metal hydrides.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).

Exposure guidelines: (as total dust) PEL 15 mg/m³ (OSHA)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Gray powder. Odorless.

Soluble: Soluble in a mixture of nitric and hydrofluoric acid.

Insoluble in water.

Boiling point: 3265 °C

Melting point: 1414 °C

Specific gravity: 2.3296

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizing agents.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD₅₀: 3160 mg/kg

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-130-8), RCRA code D001.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 25, 2014

Material Safety Data Sheet



Silicon Dioxide

Revised: 12/19/2012
Replaces: 12/19/2012
Printed: 06/21/2013

Carolina Biological Supply Company
2700 York Rd | Burlington, NC 27215 • to order: 800.334.5551 • for support: 800.227.1150

CAROLINA
www.carolina.com

Section 1 - Product Description

Product Name: Silicon Dioxide
Product Code(s): C71742
Size: 25 g
Chemical Name: Silicon Dioxide
CAS Number: 7631-86-9
Formula: SiO₂
Synonyms: Sand
Distributor: Carolina Biological Supply Company, 2700 York Road, Burlington, NC 27215
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F) Chemtrec 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 - Hazard Identification

Emergency Overview: CAUTION - Harmful by inhalation. Irritating to eyes.

Potential Health Effects:

Eyes: May cause irritation.

Skin: Non-Hazardous under normal use.

Ingestion: May cause gastrointestinal discomfort.

Inhalation: May cause irritation to respiratory tract.

Section 3 - Composition / Information on Ingredients

Principal Hazardous Components: Silicon Dioxide, Amorphous (CAS # 7631-86-9) 99%
TLV units: ACGIH TLV - 10 mg/m³ (TWA)
PEL units:

Section 4 - First Aid Measures

Emergency and First Aid Procedures:

Eyes - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin - After contact with skin, wash immediately with plenty of water.

Ingestion - If swallowed, rinse mouth with water (only if the person is conscious).

Inhalation - In case of accident by inhalation: remove casualty to fresh air and keep at rest.

Section 5 - Firefighting Procedures

Flash Point (Method Used): N/A

NFPA Rating:

Health: 1

Fire: 0

Reactivity: 0

Extinguisher Media: Use media suitable to extinguish surrounding fire.

Flammable Limits in Air % by Volume: N/A

Autoignition Temperature: N/A

Special Firefighting Procedures: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.

Unusual Fire and Explosion Hazards: None Known

Section 6 - Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: Ventilate area of spill. Clean-up personnel should wear proper protective equipment. Avoid creating dust. Sweep or scoop up and containerize for disposal.

Section 7 - Special Precautions

Precautions to Take in Handling or Storing: Avoid creating and inhaling dust. Suitable for any general chemical storage.

Section 8 - Protection Information

Respiratory Protection (Specify Type): None needed under normal conditions of use with adequate ventilation. A NIOSH/MSHA chemical cartridge respirator should be worn if PEL or TLV is exceeded.

Ventilation:

Local Exhaust: No

Mechanical(General): Yes

Special: No

Other: No

Protective Gloves: Natural rubber, Neoprene, PVC or equivalent.

Eye Protection: Splash proof chemical safety goggles should be worn.

Other Protective Clothing or Equipment: Lab coat, apron, eye wash, safety shower.

Section 9 - Physical Data

Molecular Weight: 60.09

Boiling Point: N/A

Vapor Density(Air=1): N/A

Percent Volatile by Volume: 0%

Solubility in Water: Practically Insoluble

Melting Point: 1610°C (2930°F)

Vapor Pressure: N/A

Specific Gravity (H₂O=1): Approx. 2.2

Evaporation Rate (BuAc=1): N/A

Appearance and Odor: White powder

Section 10 - Reactivity Data

Stability: Stable

Conditions to Avoid: Moisture; Product is hygroscopic.

Incompatibility (Materials to Avoid): Acids, Bases, Oxidizers, Ammonia, Hydrofluoric Acid,

Hazardous Decomposition Products: SiO_x

Hazardous Polymerization: Will not occur

Section 11 - Toxicity Data

Toxicity Data: ORL LD50 - Rat: > 10,000 mg/kg

Effects of Overexposure:

Acute: See Section 2

Chronic: Listed by NTP as a probable carcinogen.

Conditions Aggravated by Overexposure: Respiratory disorders

Target Organs: Respiratory system

Primary Route(s) of Entry: Inhalation, contact with Eyes.

Section 12 - Ecological Data

EPA Waste Numbers: N/A

Section 13 - Disposal Information

Waste Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.

Section 14 - Transport Information

DOT Proper Shipping Name: Not regulated for transport

Section 15 - Regulatory Information

EPA TSCA Status: On TSCA Inventory

Hazard Category for SARA Section 311/312 Reporting: Chronic

Name List:

No

Chemical Category:

No

CERCLA Section 103 RQ(lb.): No

RCRA Section 261.33: No

Section 16 - Additional Information

The information provided in this Material Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the Material Safety Data Sheet. Any employer must carefully assess the applicability of any information contained herein in regards to the particular use to which the employer puts the material.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists
CAS Number	Chemical Services Abstract Number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOT	U.S. Department of Transportation
IARC	International Agency of Research on Cancer
N/A	Not Available
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
ppm	Parts per million
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act

Section 1 Chemical Product and Company Information

Page E1 of E2



5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product SILICON METAL, LUMPS

Synonyms Silicon Metal

Section 2 Hazards Identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: None required

Pictograms: No symbol required

Target organs: None known

GHS Classification: None required

GHS Label information: Hazard statement: None required

Precautionary statement: None required

Supplemental information:

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Silicon metal lumps	7440-21-3	100%	231-130-8

Section 4 First Aid Measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: DUST MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 7 Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Silicon	Not established	TWA: 5 mg/m ³ Respirable fraction	TWA: 5 mg/m ³ Respirable fraction

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Solid, metallic silver lumps.	Evaporation rate (= 1): Data not available	Partition coefficient: Data not available
Odor: No odor.	Flammability (solid/gas): Data not available.	Auto-ignition temperature: Data not available
Odor threshold: Data not available.	Explosion limits: Lower / Upper: Data not available	Decomposition temperature: Data not available.
pH: Data not available.	Vapor pressure (mm Hg): Data not available	Viscosity: Data not available.
Melting / Freezing point: 1440°C (2624°F)	Vapor density (Air = 1): Data not available	Molecular formula: Si
Boiling point: Data not available	Relative density (Specific gravity): 2.3	Molecular weight: 28.09
Flash point: Not flammable	Solubility(ies): Insoluble in water.	

Section 10 Stability & Reactivity

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Avoid generation of airborne dust.

Incompatible materials: Acids and strong bases.

Hazardous decomposition products: None known.

Section 11 Toxicological Information

Acute toxicity: Oral-rat LD50: 3160 mg/kg

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

Skin: Contact with may cause irritation.

Eyes: Contact with may cause irritation.

Signs and symptoms of exposure: Low hazard in the form of lumps. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: VVW0400000

Section 12 Ecological Information

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information (US DOT / CANADA TDG)

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Marine pollutant: No

Exceptions: Not applicable

2012 ERG Guide #: Not applicable

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Silicon	Listed	Not listed	D001	Listed	Not listed	Uncontrolled product

Section 16 Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 688.00

Revision Date: March 25, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Silver

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Silver	7440-22-4	Ag	107.88	

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Noncombustible solid. Combustible only as fine dust.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up, place in sealed bag or container and dispose. Wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #1. Store with metals and metal hydrides.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear eye protection. Wash hands thoroughly after handling.

Exposure guidelines: (as dust and fume) TLV 0.1 mg/m³ (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Soft, ductile, lustrous-white solid. Odorless.

Soluble: Nitric acid or hot sulfuric acid.

Boiling point: 2162 °C

Melting point: 961 °C

Specific gravity: 10.5

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong acids, strong bases, oxygen.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Harmful dust

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD₅₀: N.A.

IHL-RAT LC₅₀: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #27a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-131-3), RCRA code D001, D0011.

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 25, 2014

Safety Data Sheet

Silver Nitrate

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Silver Nitrate
Recommended Use: Science education applications
Synonyms: Lunar Caustic; , Nitric Acid, Silver (1+) Salt
Distributor: Carolina Biological Supply Company, 2700 York Road, Burlington, NC 27215-3398
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

DANGER



Harmful if swallowed. Causes severe skin burns and eye damage. Very toxic to aquatic life with long lasting effects.

GHS Classification:

Skin Corrosion/Irritation Category 1B, Hazardous to the aquatic environment - Acute Category 1, Hazardous to the aquatic environment - Chronic Category 1, Acute Toxicity - Oral Category 4

Acute Toxicity Dermal Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Gas Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Vapor Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Dust/Mist Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity

Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Silver Nitrate	7761-88-8	100

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Eyes: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Skin Contact: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
Ingestion: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

Section 5 Firefighting Procedures

Extinguishing Media: Water in flooding amounts. Do not use dry chemical, CO₂, or halon.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Contact with combustible material may cause fire. Powerful oxidizer.
Hazardous Combustion Products: Nitrogen containing gases

Section 6 Spill or Leak Procedures

Safety Data Sheet

Steps to Take in Case Material Is Released or Spilled:

Exposure to the spilled material may be severely irritating or toxic. Follow personal protective equipment recommendations found in Section 8 of this SDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits. Clean up spills immediately using Protective Equipment recommended in Section 8 at a minimum. Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Collect spillage.

Section 7

Handling and Storage

Handling: Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Storage: Store locked up.

Storage Code: Yellow - Reactive. Store separate and away from incompatible material.

Section 8

Protection Information

Chemical Name	ACGIH		OSHA PEL	
	(TWA)	(STEL)	(TWA)	(STEL)
Silver Nitrate	0.01 mg/m ³ TWA (as Ag)	N/A	0.01 mg/m ³ TWA (as Ag)	N/A

Control Parameters

Engineering Measures:

Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

Personal Protective Equipment (PPE):

Lab coat, apron, eye wash, safety shower.

Respiratory Protection:

No respiratory protection required under normal conditions of use. Provide general room exhaust ventilation if symptoms of overexposure occur as explained Section 11. A respirator is not normally required. Conduct air monitoring to determine the effectiveness of ventilation.

Respirator Type(s):

None required where adequate ventilation is provided. If airborne concentrations are above the applicable exposure limits, use NIOSH/MSHA approved respiratory protection.

Eye Protection:

Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection:

Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves:

Nitrile

Section 9

Physical Data

Formula: AgNO₃
Molecular Weight: 169.87
Appearance: White Solid
Odor: No data available
Odor Threshold: No data available
pH: 6
Melting Point: 208 - 210 C
Boiling Point: > 440 C
Flash Point: No data available
Flammable Limits in Air: N/A

Vapor Pressure: N/A
Evaporation Rate (BuAc=1): N/A
Vapor Density (Air=1): N/A
Specific Gravity: 5.35
Solubility in Water: Soluble
Log Pow (calculated): No data available
Autoignition Temperature: No data available
Decomposition Temperature: 440 C
Viscosity: No data available
Percent Volatile by Volume: N/A

Section 10

Reactivity Data

Reactivity: Not generally reactive under normal conditions.
Chemical Stability: Stable under normal conditions.
Conditions to Avoid: contact with flammable materials Visible light

Safety Data Sheet

Incompatible Materials: Strong alkalis, Strong reducing agents, Magnesium, Phosphates, Halides, Carbonates, Sulfur, Charcoal, flammable liquids
Hazardous Decomposition Products: Nitrogen containing gases
Hazardous Polymerization: Will not occur

Section 11 Toxicity Data

Routes of Entry: Inhalation, ingestion, eye or skin contact.
Symptoms (Acute): Argyria (Blue to Blue-Grey tissue discoloration)
Delayed Effects: Argyria (Blue to Blue-Grey tissue discoloration)
Impaired Kidney Function

Acute Toxicity:	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Chemical Name: Silver Nitrate	7761-88-8	ORAL LD50 Rat 1173 mg/kg	Not applicable	Not applicable

Carcinogenicity:	CAS Number	IARC	NTP	OSHA
Chemical Name: No data available	7761-88-8	Not listed	Not listed	Not listed

Chronic Effects:
Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: No information available
Chronic: Kidneys

Section 12 Ecological Data

Overview: This material is not expected to be harmful to the ecology.
Mobility: This material is expected to have moderate mobility in soil. It absorbs to most soil types.
Persistence: Biodegradation, adsorption to sediment, and bioconcentration to aquatic organisms should not be significant.
Bioaccumulation: Bioconcentration may occur.
Degradability: Does not biodegrade readily.
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
Silver Nitrate	7761-88-8	96 HR LC50 PIMEPHALES PROMELAS 0.009 MG/L 48 HR EC50 DAPHNIA MAGNA 0.0006 MG/L

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): Not Determined

Section 14 Transport Information

Ground - DOT Proper Shipping Name:	Air - IATA Proper Shipping Name:
UN1493 SILVER NITRATE Division 5.1 P.G. II	UN1493 SILVER NITRATE Division 5.1 P.G. II

Section 15 Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Safety Data Sheet

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Silver Nitrate	7761-88-8	No	1 lb RQ	1 lb final RQ; 0.454 kg final RQ	No	No

Section 16

Additional Information

Revised: 03/28/2013

Replaces: 12/19/2012

Printed: 06-21-2013

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health

Section 1 Chemical Product and Company Information

5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product SILVER NITRATE

Synonyms Silver(I) Nitrate

Section 2 Hazards Identification

Signal word: DANGER

Pictograms: GHS03 / GHS05 / GHS09

Target organs: Kidneys, Liver, Eyes, Skin



GHS Classification:

Ox. Sol. (Category 2)

Skin Corr. (Category 1B)

Aquatic Acute (Category 1)

Aquatic Chronic (Category 1)

GHS Label information: Hazard statement:

H272: May intensify fire; oxidizer.

H314: Causes severe skin burns and eye damage.

H410: Very toxic to aquatic life with long lasting effects.

Precautionary statement(s):

P210: Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

P220: Store away from clothing and combustible materials.

P221: Take any precaution to avoid mixing with combustibles.

P260: Do not breathe dust.

P264: Wash hands thoroughly after handling.

P273: Avoid release to the environment.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P310: Immediately call a POISON CENTER or doctor.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P363: Wash contaminated clothing before reuse.

P370+P378: In case of fire: Use carbon dioxide, dry chemical, water spray, alcohol foam for extinction.

P391: Collect spillage.

P405: Store locked up.

H501: Dispose of contents/container to a licensed chemical disposal agency in accordance with all local, state and federal regulations.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3 Composition Information on Ingredients

Chemical Name	CAS #	%	EINECS
Silver nitrate	7761-88-8	100%	231-853-9

Section 4 First Aid Measures

INGESTION: MAY BE FATAL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CONTACT CAUSES CORNEAL DAMAGE OR BLINDNESS. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: CONTACT CAN CAUSE BURNS. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Substance is a strong oxidizer which releases oxygen on heating. The oxygen will intensify any fire in the immediate surroundings.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 1 Chemical Product and Company Identification

Page E1 of E2



**Aldon
Corporation**

221 Rochester Street
Avon, NY 14414
(585) 226-6177

**CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300**
For laboratory use only.
Not for drug, food or household use.

Product SILVER NITRATE
Synonyms Silver(I) Nitrate

Section 2 Hazards Identification

Signal word: DANGER
Pictograms: GHS03 / GHS05 / GHS09
Target organs: Kidneys, Liver, Eyes, Skin



GHS Classification:
Ox. Sol. (Category 2)
Skin Corr. (Category 1B)
Aquatic Acute (Category 1)
Aquatic Chronic (Category 1)

GHS Label information: Hazard statement:
H272: May intensify fire; oxidizer.
H314: Causes severe skin burns and eye damage.
H410: Very toxic to aquatic life with long lasting effects.

Precautionary statement(s):

P210: Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P220: Store away from clothing and combustible materials.
P221: Take any precaution to avoid mixing with combustibles.
P260: Do not breathe dust.
P264: Wash hands thoroughly after handling.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P310: Immediately call a POISON CENTER or doctor.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P363: Wash contaminated clothing before reuse.
P370+P378: In case of fire: Use water to extinguish.
P391: Collect spillage.
P405: Store locked up.
H501: Dispose of contents/container to a licensed chemical disposal agency in accordance with all local, state and federal regulations.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Chemical Name	CAS #	%	EINECS
Silver nitrate	7761-88-8	100%	231-853-9

INGESTION: MAY BE FATAL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CONTACT CAUSES CORNEAL DAMAGE OR BLINDNESS. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: CONTACT CAN CAUSE BURNS. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Suitable Extinguishing Media: Use water. Do not use dry chemicals or foams. CO₂ or Halon® may provide limited control.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Substance is a strong oxidizer which releases oxygen on heating. The oxygen will intensify any fire in the immediate surroundings.

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area. Keep away from ignition sources. Store in resistant containers. Do not store in wooden, cardboard or paper containers. Store away from flammable and combustible materials.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Silver, soluble compounds, as Ag	TWA: 0.01 mg/m ³	TWA: 0.01 mg/m ³	TWA: 0.01 mg/m ³

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Solid, white crystals.	Evaporation rate (= 1): Not applicable	Partition coefficient: Data not available
Odor: No odor.	Flammability (solid/gas): Data not available.	Auto-ignition temperature: Data not available
Odor threshold: Data not available.	Explosion limits: Lower / Upper: Data not available	Decomposition temperature: 444°C (>831°F)
pH: Data not available.	Vapor pressure (mm Hg): Data not available	Viscosity: Not applicable
Melting / Freezing point: 212°C (>413°F)	Vapor density (Air = 1): 5.8	Molecular formula: AgNO ₃
Boiling point: Decomposes	Relative density (Specific gravity): 4.35	Molecular weight: 169.87
Flash point: Data not available	Solubility(ies): +/- 10% in water	

Section 10 Stability & Reactivity

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures, heat, sparks, open flame and other sources of ignition.

Incompatible materials: Combustible materials, reducing agents, organic substances, strong basis and alkalis.

Hazardous decomposition products: Nitrogen oxides.

Acute toxicity: Oral-rat LD50: 1,173 mg/kg ; Dermal-guinea pig LD50: >216 mg/kg

Skin corrosion/irritation: Human - Corrosive

Serious eye damage/irritation: Rabbit - Corrosive

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Inhalation of dust will produce irritation to gastrointestinal or respiratory tract, characterized by burning, sneezing, and coughing. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

Ingestion: Poisonous if swallowed. Ingestion causes severe gastroenteritis.

Skin: Contact with skin can produce inflammation and blistering.

Eyes: Contact with eyes may cause corneal damage or blindness.

Signs and symptoms of exposure: Irritation of upper respiratory tract. Skin irritation or burns. Severe irritation or burns to eyes.

Additional information: RTECS #: VV4725000

Toxicity to fish: Oncorhynchus mykiss (fish, fresh water), LC50 = 0.0086 mg/l/96 hours

Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacea), EC50 = 0.0006 mg/l/48 hours

Toxicity to algae: Chlorella vulgaris (Algae), EC50 = Ca. 0.1 mg/l/14 day - growth rate

Persistence and degradability: No data available **Bioaccumulative potential:** No data available

Mobility in soil: No data available **PBT and vPvB assessment:** No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

UN/NA number: UN1493

Shipping name: Silver nitrate

Hazard class: 5.1

Packing group: II

Reportable Quantity: > 1 lbs (0.454 kg)

Marine pollutant: No

Exceptions: Limited quantity equal to or less than 0.453 Kg

2016 ERG Guide # 140

A chemical is considered to be listed if the CAS number for the anhydrous form is on the inventory list.

Component	TSCA	CERCLA (RQ)	RCRA code	DSL	NDSL
Silver nitrate	Listed	Listed	D001, D011	Listed	Not listed

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 692.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Silver Nitrate Solution 0.2M or Less

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2A). Causes skin and serious eye irritation (H315+H319).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Silver nitrate	7761-88-8	AgNO ₃	169.87	5% or less
Water	7732-18-5	H ₂ O	18.00	98%+

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

If on skin: Wash with plenty of water (P302+P352). **If skin irritation occurs:** Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Do NOT induce vomiting. Call a physician or poison control IMMEDIATELY.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.

In case of fire: Flood with water. Do NOT use a tri-class dry chemical, carbon dioxide or halon fire extinguisher.

NFPA CODE
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Contain spill with sand or absorbent material; deposit in sealed bag or container. Absorb spills to prevent material damage (P390). See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #3. Store with amides, nitrates, nitrites and azides.
Light sensitive. Store in a Flinn Chem-Saf™ bag.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).
Exposure guidelines: (as silver nitrate) PEL/TLV 0.01 mg/m³ (OSHA, ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Colorless liquid. Odorless.

SECTION 10 — STABILITY AND REACTIVITY

Shelf life: Indefinite, but light sensitive. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Diarrhea, cyanosis

ORL-RAT LD₅₀: 1173 mg/kg as silver nitrate

Chronic effects: Argyrosis

IHL-RAT LC₅₀: N.A.

Target organs: N.A.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Toxic to aquatic species.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #11 is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

Silver Nitrate, Crystal, ACS

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Silver Nitrate, Crystal, ACS

Synonyms/Generic Names: Lunar caustic; Silver (1+) nitrate; Nitric acid, silver (1+) salt

Product Number: 4730

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI. 53925

For More Information Call: 920-623-2140 (Monday-Friday 8:00-4:30)

In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

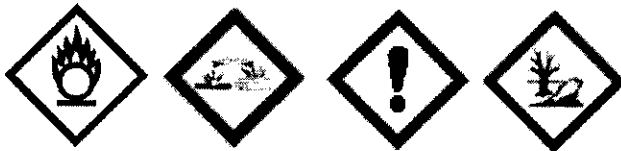
2. HAZARDS IDENTIFICATION

OSHA Hazards: Oxidizer, Carcinogen, Target Organ Effect, Harmful by ingestion, Corrosive

Target Organs: Eyes, Nerves, Blood, Lungs

Signal Word: Danger

Pictograms:



GHS Classification:

Oxidizing solids	Category 2
Acute toxicity, Oral	Category 4
Skin corrosion	Category 1B
Serious eye damage	Category 1
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 4

GHS Label Elements, including precautionary statements:

Hazard Statements:

H272	May intensify fire; oxidizer.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H400	Very toxic to aquatic life.
H413	May cause long lasting harmful effects to aquatic life.

Precautionary Statements:

P220	Keep/Store away from clothing/ combustible materials.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/ physician.

Potential Health Effects

Eyes	Causes eye burns.
Inhalation	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin	Harmful if absorbed through skin. Causes skin burns.
Ingestion	Harmful if swallowed.

NFPA Ratings

Health	3
Flammability	0
Reactivity	0
Specific hazard	OX

HMIS Ratings

Health	3
Fire	0
Reactivity	0
Personal	J

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Silver Chloride	100	776188-8	231-853-9	AgNO ₃	169.87 g/mol

4. FIRST-AID MEASURES

Eyes	In case of eye contact, rinse with plenty of water and seek medical attention immediately.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.
Ingestion	Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Product is not flammable. Use appropriate media for adjacent fire. Cool unopened containers with water.
Special protective equipment and precautions for firefighters	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
Specific hazards arising from the chemical	Emits toxic fumes (nitrogen oxides, silver oxides) under fire conditions. Oxidizing solid. (See also Stability and Reactivity section).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Pick up and arrange disposal without creating dust. Sweep up and place in suitable, closed containers for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of dusts.

Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area. Light sensitive. Keep away from incompatible materials (see section 10 for incompatibilities).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls:

Component	Exposure Limits	Basis	Entity
Silver Chloride	0.01 mg/m ³	TLV	ACGIH
	0.01 mg/m ³	PEL	OSHA
	0.01 mg/m ³	REL	NIOSH

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

Personal Protection

Eyes	Wear chemical safety glasses or goggles.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear nitrile or rubber gloves, apron or lab coat.
Other	Not Available

Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Colorless to white crystalline solid.
Odor	Not Available
Odor threshold	Not Available
pH	6 - 7
Melting point/freezing point	212°C (413.6°F)
Initial boiling point and boiling range	440°C (824°F)
Flash point	Not Flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Explosive
Vapor pressure	Not Available
Vapor density	5.8 (Air = 1)
Density	4.35 (Water = 1)
Solubility (ies)	Easily soluble in cold water, hot water. Soluble in diethyl ether. Very slightly soluble in acetone. Solubility in water:
Partition coefficient: n-octanol/water	log Pow: 5
Auto-ignition temperature	Not Available
Decomposition temperature	440°C (824°F)

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Light.
Incompatible Materials	Strong reducing agents, alcohols, ammonia, magnesium, strong bases.
Hazardous Decomposition Products	Nitrogen oxides, silver/silver oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Skin	Not Available
Eyes	Not Available
Respiratory	Not Available
Ingestion	LD50 Oral - rat - 1,173 mg/kg

Carcinogenicity

IARC	No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs & Symptoms of Exposure

Skin	Irritation, redness, itchiness.
Eyes	Irritation, redness, watering eyes, itchiness, corneal opacification, bleeding conjunctiva, burns of conjunctiva, argyria, blindness.
Respiratory	Burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting.
Ingestion	burns, pain and burning in the mouth, violent abdominal pain, argyria -grayish/blackening of skin and mucous membranes, throat and abdomen, salivation, vomiting of black material, diarrhea, hypermotility, ulcerative gingivitis.

Chronic Toxicity	Not Available
Teratogenicity	Not Available
Mutagenicity	May affect genetic material.
Embryotoxicity	Not Available
Specific Target Organ Toxicity	May affect kidneys (lesions of kidneys, anuria) and lungs.
Reproductive Toxicity	May cause adverse reproductive effects.
Respiratory/Skin Sensitization	Not Available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Vertebrate	mortality NOEC - <i>Oncorhynchus mykiss</i> (rainbow trout) - 0.108 mg/l - 96.0 h mortality LOEC - <i>Oncorhynchus mykiss</i> (rainbow trout) - > 0.007 mg/l - 7.0 d LC50 - <i>Leuciscus idus</i> (Golden orfe) - 0.029 mg/l - 96.0 h LC50 - <i>Oncorhynchus mykiss</i> (rainbow trout) - 0.006 mg/l - 96.0 h
Aquatic Invertebrate	EC50 - <i>Daphnia magna</i> (Water flea) - 0.0006 mg/l - 48 h
Terrestrial	Not Available

Persistence and Degradability	Not Available
Bioaccumulative Potential	<i>Lepomis macrochirus</i> - 60 d Bioconcentration factor (BCF): 120
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Very toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

Waste Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

US DOT	UN1493, Silver nitrate, 5.1, pg II
TDG	UN1493, Silver nitrate, 5.1, pg II
IMDG	UN1493, Silver nitrate, 5.1, pg II
Marine Pollutant	No
IATA/ICAO	UN1493, Silver nitrate, 5.1, pg II

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Silver nitrate
SARA 312	Silver nitrate
SARA 313	Listed: Silver nitrate
WHMIS Canada	CLASS C: Oxidizing material. CLASS E: Corrosive solid.

16. OTHER INFORMATION

Revision	Date
Revision 1	08-14-2012

Disclaimer: Columbus Chemical Industries, Inc. ("Columbus") believes that the information herein is factual but is not intended to be all inclusive. The information relates only to the specific material designated and does not relate to its use in combination with other materials or its use as to any particular process. Because safety standards and regulations are subject to change and because Columbus has no continuing control over the material, those handling, storing or using the material should satisfy themselves that they have current information regarding the particular way the material is handled, stored or used and that the same is done in accordance with federal, state and local law. COLUMBUS MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION) WARRANTIES WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN OR WITH RESPECT TO FITNESS FOR ANY PARTICULAR USE.

LAB-AIDS[®] Inc.

MATERIAL SAFETY DATA SHEET

ID # 110R-5

07/02/97

CHEMICAL NAME & SYNONYMS	Silver Nitrate; Silver Salt solution
CAS No.(s)	7732-18-5; 7761-88-8
USED IN LAB AIDS KIT# (s)	110R
FORMULA	Mixture
FORMULA WEIGHT (FW)	Mixture
PHYSICAL DATA (DENSITY, SOLUBILITY, ETC)	Mixture consists of: Silver nitrate and water
APPEARANCE AND ODOUR	Clear, colorless liquid
INCOMPATIBILITY (MATERIALS TO AVOID)	Avoid body contact
DOT CLASS	Not regulated
REACTIVITY	Stable
CONDITIONS TO AVOID (IF ANY)	Avoid body contact
HEALTH HAZARDS (IF ANY)	May be toxic by ingestion and a skin irritant
TOLERANCE LIMIT VALUE (TLV) (IF ESTABLISHED)	None established
FIRE HAZARDS (IF ANY)	Non flammable
SPILLS AND LEAKS	Absorb w/sand or vermiculite and place in a suitable container
DISPOSAL METHOD	Add a 50% molar excess of sodium chloride solution and stir Filter precipitate of silver chloride and dispose of in an approved land fill sight
SPECIAL PRECAUTIONS (IF ANY)	Use gloves and chemical splash safety goggles
FIRST AID (IF SUBSTANCE DANGEROUS)	External: Wash affected parts with plenty of water Internal: If ingested wash mouth and consult a physician

LIMIT OF LIABILITY - NO WARRANTY

DISCLAIMER

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Material listed in these MSDS are classified in accordance with the definitions set forth in 29CFR parts 1915, 1916, and 1917.

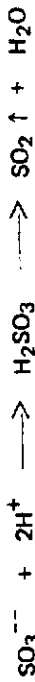
Dated: 2/1/90

LAB-AIDS, INC.
17 Colt Court
Ronkonkoma, NY 11779

CHEMTREC Emergency Telephone No.: 800/424-9300

SO₃²⁻

The SO₃²⁻ ion reacts with acids to produce SO₂, according to the equation:



The SO₂ does not come off quickly enough to be seen as bubbles of gas, but the odor can be detected. The odor of SO₂ is usually described as a choking odor, because it generally causes a coughing reflex; it is the odor which is most familiar as the odor of the first flare-up of a match head which produces SO₂ as one of the combustion products; it is the odor of burning sulfur. The presence of SO₂ may be confirmed by a visual test. SO₂ will bleach potassium permanganate solution. The SO₂ will reduce MnO₄⁻ from a wine color, to a brownish color (MnO₂) and finally to colorless (Mn²⁺).

S²⁻, H₂S

As was indicated above, very few sulfides are soluble; the solution of such a substance in water results in the formation of a small quantity of H₂S by hydrolysis. If an acid is added to an insoluble sulfide, H₂S is also formed.



The odor of H₂S is very noticeable in an unpleasant way; it is usually described as resembling rotten eggs. Rotten eggs, and other decaying foods, do indeed give off H₂S among other fumes. The gas H₂S is not only unpleasant, but it is also toxic, and its effect is cumulative. To make matters worse, continued exposure to the gas results in a saturation of the sense of smell (or nerve fatigue). (This phenomena along with many others is performed in the LAB-AIDS Human Senses Experiment Kit #8). As a result, the odor becomes much less noticeable which makes the gas more dangerous.

The H₂S can also be readily identified by the effect it has on a piece of filter paper wet with lead acetate solution.



PbS appears on the paper as a very dark, nearly black, substance often showing a grayish metallic luster.

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Material listed in these MSDS are classified in accordance with the definitions set forth in 29CFR parts 1915, 1916 and 1917.

Dated: 11/1/93

LAB-AIDS, INC.
17 Colt Court
Ronkonkoma, NY 11779

Section 1 Chemical Product and Company Information



5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product SILVER OXIDE
Synonyms Silver(I) Oxide / Disilver Oxide

Section 2 Hazards Identification

Signal word: DANGER

Pictograms: GHS03 / GHS05 / GHS09

Target organs: Eyes, Skin, Respiratory system



GHS Classification:

Oxidizing solid (Category 1)

Eye damage (Category 1)

Aquatic Acute (Category 1)

Aquatic Chronic (Category 1)

GHS Label information: Hazard statement:

H271: May cause fire or explosion; strong oxidizer.

H318: Causes serious eye damage.

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

Precautionary statement(s):

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P220: Keep away from clothing/incompatible/combustible materials.

P221: Take any precaution to avoid mixing with combustibles and incompatible materials.

P273: Avoid release to the environment.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P283: Wear flame resistant clothing.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P310: Immediately call a POISON CENTER or doctor.

P306+P360: IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.

P371+P380+P375: In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

P370+P378: In case of fire: Use water. Do not use dry chemicals or foams to extinguish.

P391: Collect spillage.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3 Composition, Information on Ingredients

Chemical Name	CAS #	%	EINECS
Silver oxide	20667-12-3	100%	243-957-1

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE DAMAGE. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Suitable Extinguishing Media: Use water. Do not use dry chemicals or foams. CO₂ or Halon[®] may provide limited control.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Substance is a strong oxidizer which releases oxygen on heating. The oxygen will intensify any fire in the immediate surroundings.

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 7 Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area. Keep away from ignition sources. Store in resistant containers. Do not store in wooden, cardboard or paper containers. Store away from flammable and combustible materials. Protect from light.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Silver, soluble compounds, as Ag	TWA: 0.01 mg/m ³	TWA: 0.01 mg/m ³	TWA: 0.01 mg/m ³

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Solid. Brown-black powder.
Odor: No odor.
Odor threshold: Data not available.
pH: Data not available.
Melting / Freezing point: Data not available
Boiling point: Data not available
Flash point: Data not available

Evaporation rate (= 1): Not applicable
Flammability (solid/gas): Data not available.
Explosion limits: Lower / Upper: Data not available
Vapor pressure (mm Hg): Data not available
Vapor density (Air = 1): Data not available
Relative density (Specific gravity): 7.22
Solubility(ies): 0.0017 g/100 ml in water @ 20°C

Partition coefficient: Data not available
Auto-ignition temperature: Data not available
Decomposition temperature: 300°C (572°F)
Viscosity: Not applicable
Molecular formula: Ag₂O
Molecular weight: 231.74

Section 10 Stability & Reactivity

Chemical stability: Stable
Hazardous polymerization: Will not occur.
Conditions to avoid: Avoid temperatures above 300°C and exposure to light.

Incompatible materials: Ammonia, organic vapors, reducing agents.

Hazardous decomposition products: Emits oxygen above 300°C.

Section 11 Information

Acute toxicity: Data not available

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: May be harmful by inhalation.

Ingestion: Generalized argyria (blue or bluish-grey colored skin, eyes, nose and/or throat) may result from ingestion of elemental silver, silver dust or silver compounds.

Skin: Contact causes irritation.

Eyes: Causes serious eye damage.

Signs and symptoms of exposure: To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: VW4900000

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

UN/NA number: UN3085

Shipping name: Oxidizing solid, corrosive, n.o.s., (Silver oxide)

Hazard class: 5.1, (8)

Packing group: II


Reportable Quantity: No

Marine pollutant: No

Exceptions: No exceptions

2012 ERG Guide # 140

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Silver oxide	Listed	Not listed	Not listed	Listed	Not listed	 C ; E

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Revision Date: July 10, 2014

Supersedes: July 10, 2014

Section 1: IDENTIFICATION**Product Name:** Simple Green® All-Purpose Cleaner (Ready-To-Use)**Additional Names:****Manufacturer's Part Number:** *Please refer to Section 16**Recommended Use:** Cleaner for hard non-porous water resistant surfaces**Restrictions on Use:** Do not use on non-rinseable surfaces.**Company:** Sunshine Makers, Inc.
15922 Pacific Coast Highway
Huntington Beach, CA 92649 USA**Telephone:** 800-228-0709 • 562-795-6000 *Mon – Fri, 8am – 5pm PST***Fax:** 562-592-3830**Email:** info@simplegreen.com**Emergency Phone:** Chem-Tel 24-Hour Emergency Service: 800-255-3924**Section 2: HAZARDS IDENTIFICATION**

This product is not considered hazardous under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

OSHA HCS 2012Label Elements**Signal Word:** None**Hazard Symbol(s)/Pictogram(s):** None required**Hazard Statements:** None**Precautionary Statements:** None**Hazards Not Otherwise Classified (HNOC):** None**Other Information:** None Known**Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**

<u>Ingredient</u>	<u>CAS Number</u>	<u>Percent Range</u>
Water	7732-18-5	> 96.588%*
C9-11 Alcohols Ethoxylated	68439-46-3	< 1.000%*
Surfactant	Proprietary Mixture	< 1.000%*
Sodium Citrate	68-04-2	< 1.000%*
Sodium Carbonate	497-19-8	< 0.100%*
Tetrasodium Glutamate Diacetate	51981-21-6	< 0.100%*
Citric Acid	77-92-9	< 0.100%*
Blend of Polyoxyalkylene Substituted Chromophores (Cyan and Yellow)**	Proprietary Mixture	< 0.010%*
Methylchloroisothiazolinone, Methylisothiazolinone	55965-84-9	< 0.002%*
Fragrances	Proprietary Mixture	< 0.100%*

specific percentages of composition are being withheld as a trade secret**Colorant added to select UPCS***Section 4: FIRST-AID MEASURES****Inhalation:** Not expected to cause respiratory irritation. If adverse effect occurs, move to fresh air.**Skin Contact:** Not expected to cause skin irritation. If adverse effect occurs, rinse skin with water.**Eye Contact:** Not expected to cause eye irritation. If adverse effect occurs, flush eyes with water.**Ingestion:** May cause upset stomach. Drink plenty of water to dilute. See section 11.**Most Important Symptoms/Effects, Acute and Delayed:** None known.**Indication of Immediate Medical Attention and Special Treatment Needed, if necessary:** Treat symptomatically

Section 5: FIRE-FIGHTING MEASURES

Suitable & Unsuitable Extinguishing Media: Use Dry chemical, CO₂, water spray or “alcohol” foam. Avoid high volume jet water.
Specific Hazards Arising from Chemical: In event of fire, fire created carbon oxides may be formed.
Special Protective Actions for Fire-Fighters: Wear positive pressure self-contained breathing apparatus; Wear full protective clothing.

This product is non-flammable. See Section 9 for Physical Properties.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: *For non-emergency and emergency personnel:* See section 8 – personal protection. Avoid eye contact. Safety goggles suggested.

Environmental Precautions: Do not allow into open waterways and ground water systems.

Methods and Materials for Containment and Clean Up: Dike or soak up with inert absorbent material. See section 13 for disposal considerations.

Section 7: HANDLING AND STORAGE

Precautions for Safe Handling: Ensure adequate ventilation. Keep out of reach of children. Keep away from heat, sparks, open flame and direct sunlight. Do not pierce any part of the container. Do not mix or contaminate with any other chemical. Do not eat, drink or smoke while using this product.

Conditions for Safe Storage including Incompatibilities: Keep container tightly closed. Keep in cool dry area. Avoid prolonged exposure to sunlight. Do not store at temperatures above 109°F (42.7°C). If separation occurs, mix the product for reconstitution.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limit Values: No components listed with TWA or STEL values under OSHA or ACGIH.

Appropriate Engineering Controls: Showers, eyewash stations, ventilation systems

Individual Protection Measures / Personal Protective Equipment (PPE)

Eye Contact: Use protective glasses or safety goggles if splashing or spray-back is likely.
Respiratory: Use in well ventilated areas or local exhaust ventilations when cleaning small spaces.
Skin Contact: Use protective gloves (any material) when used for prolonged periods or dermally sensitive.
General Hygiene Considerations: Wash thoroughly after handling and before eating or drinking.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Green Liquid	Partition Coefficient: n-octanol/water:	Not determined		
Odor:	Added sassafras odor	Autoignition Temperature:	Non-flammable		
Odor Threshold:	Not determined	Decomposition Temperature:	42.7°C (109°F)		
pH:	8.2 – 9.2	Viscosity:	Like water		
Freezing Point:	0°C (32°F)	Specific Gravity :	0.995 – 1.010		
Boiling Point & Range:	98°C (210°F)	VOCs:	**Water & fragrance exemption in calculation		
Flash Point:	> 212°F	SCAQMD 304-91 / EPA 24:	Not tested		
Evaporation Rate:	Not determined	CARB Method 310**:	0.3 g/L	0.003 lb/gal	0.03%
Flammability (solid, gas):	Not applicable	SCAQMD Method 313:	Not tested		
Upper/Lower Flammability or Explosive Limits:	Not applicable	VOC Composite Partial Pressure:	Not determined		

Section 9: PHYSICAL AND CHEMICAL PROPERTIES - continued

Vapor Pressure :	Not determined	Relative Density:	8.30 – 8.42 lb/gal
Vapor Density:	Not determined	Solubility:	100% in water

Section 10: STABILITY AND REACTIVITY

Reactivity:	Non-reactive.
Chemical Stability:	Stable under normal conditions 70°F (21°C) and 14.7 psig (760 mmHg).
Possibility of Hazardous Reactions:	None known.
Conditions to Avoid:	Excessive heat or cold.
Incompatible Materials:	Do not mix with oxidizers, acids, bathroom cleaners, or disinfecting agents.
Hazardous Decomposition Products:	Normal products of combustion - CO, CO ₂ .

Section 11: TOXICOLOGICAL INFORMATION

Likely Routes of Exposure:	Inhalation -	Overexposure may cause headache.
	Skin Contact -	Not expected to cause irritation, repeated contact may cause dry skin.
	Eye Contact -	Not expected to cause irritation, may cause slight stinging sensation.
	Ingestion -	May cause upset stomach.

Symptoms related to the physical, chemical and toxicological characteristics: no symptoms expected under typical use conditions.
Delayed and immediate effects and or chronic effects from short term exposure: no symptoms expected under typical use conditions.
Delayed and immediate effects and or chronic effects from long term exposure: headache, dry skin, or skin irritation may occur.
Interactive effects: Not known.

Numerical Measures of Toxicity

Acute Toxicity:	Oral LD ₅₀ (rat)	> 5 g/kg body weight
	Dermal LD ₅₀ (rabbit)	> 5 g/kg body weight

Calculated via OSHA HCS 2012 / Globally Harmonized System of Classification and Labelling of Chemicals

Skin Corrosion/Irritation:	Based on similar formulations, does not classify under this category.
Eye Damage/Irritation:	Based on similar formulations, does not classify under this category.
Germ Cell Mutagenicity:	Mixture does not classify under this category.
Carcinogenicity:	Mixture does not classify under this category.
Reproductive Toxicity:	Mixture does not classify under this category.
STOT-Single Exposure:	Mixture does not classify under this category.
STOT-Repeated Exposure:	Mixture does not classify under this category.
Aspiration Hazard:	Mixture does not classify under this category.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity:	Volume of ingredients used does not trigger toxicity classifications under the Globally Harmonized System of Classification and Labelling of Chemicals.
Aquatic:	Based on similar formulations expected Aquatic Toxicity - Low, based on OECD 201, 202, 203 + Microtox: EC ₅₀ & IC ₅₀ ≥100 mg/L. Volume of ingredients used does not trigger toxicity classifications under the Globally Harmonized System of Classification and Labelling of Chemicals.
Terrestrial:	Not tested on finished formulation.
Persistence and Degradability:	Based on similar formulations, expected to be readily biodegradable under OECD 301D, and reach 100% biodegradation within 60 days.
Bioaccumulative Potential:	No data available.
Mobility in Soil:	No data available.
Other Adverse Effects:	No data available.

Section 13: DISPOSAL CONSIDERATIONS

Unused or Used Liquid: May be considered hazardous in your area depending on usage and tonnage of disposal – check with local, regional, and or national regulations for appropriate methods of disposal.

Empty Containers: May be offered for recycling.

Never dispose of used degreasing rinsates into lakes, streams, and open bodies of water or storm drains.

Section 14: TRANSPORT INFORMATION

U.N. Number: Not applicable

U.N. Proper Shipping Name: Cleaning Compound, Liquid NOI

Transport Hazard Class(es): Not applicable

Packing Group: Not applicable

Environmental Hazards: Marine Pollutant - NO

Transport in Bulk (according to Annex II of MARPOL 73/78 and IBC Code): Unknown.

Special precautions which user needs to be aware of/comply with, in connection with transport or conveyance either within or outside their premises: None known.

U.S. (DOT) / Canadian TDG: Not Regulated for shipping.

ICAO/ IATA: Not classified as Hazardous

IMO / IDMG: Not classified as Hazardous

ADR/RID: Not classified as Hazardous

Section 15: REGULATORY INFORMATION

All components are listed on: TSCA and DSL Inventory.

SARA Title III: Sections 311/312 Hazard Categories – Not applicable.

Sections 313 Superfunds Amendments and Reauthorizations Act of 1986 – Not applicable.

Sections 302 – Not applicable.

Clean Air Act (CAA): Not applicable

Clean Water Act (CWA): Not applicable

State Right To Know Lists: No ingredients listed

California Proposition 65: No ingredients listed

This product has been classified as “not classifiable as hazardous” in accordance with Consumer Product Safety Commission (16 CFR Chapter 2), and labelled and packaged accordingly.

US Consumer Product Safety Commission Regulations

This product is labeled in accordance with regulations administered by the Consumer Product Safety Commission (CPSC). However, the use pattern and exposure in the workplace are generally not consistent with those experienced by consumers. Therefore, the requirements of the Occupational Safety and Health Administration applicable to this SDS differ from the labeling requirements of the CPSC, and this SDS may contain additional health hazard information not pertinent to consumer use and not found on the product label.

Section 16: OTHER INFORMATION

<u>Size</u>	<u>UPC</u>	<u>Size</u>	<u>UPC</u>
32 fl. oz. trigger	043318000713	32 fl. oz. trigger	043318006401
32 fl. oz. trigger	043318002496 **Colorless	32 fl. oz. trigger	043318160271

USA part numbers listed only. Not all part numbers listed. USA part numbers may not be valid for international sale.

Section 16: OTHER INFORMATION - continued

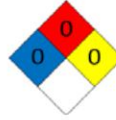
NFPA:

Health – None

Flammability – Non-flammable

Stability – Stable

Special - None



Acronyms

NTP National Toxicology Program

OSHA Occupational Safety and Health Administration

TSCA Toxic Substances Control Act

IARC

CPSC

DSL

International Agency for Research on Cancer

Consumer Product Safety Commission

Domestic Substances List

Prepared / Revised By: Sunshine Makers, Inc., Regulatory Department.

This SDS has been revised in the following sections: Section 3 correction

DISCLAIMER: The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Safety Data Sheet

Simulated Blood

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Simulated Blood
Recommended Use: Science education applications
Synonyms: N/A
Distributor: Carolina Biological Supply Company
2700 York Road, Burlington, NC 27215
1-800-227-1150
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

GHS Classification:

Other Safety Precautions: May cause irritation.
May cause gastrointestinal discomfort.
May cause irritation to respiratory tract.
May cause irritation to skin.

Acute Toxicity Oral Contains 100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Dermal Contains 100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Gas Contains 100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Vapor Contains 100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Dust/Mist Contains 100 % of the mixture consists of ingredient(s) of unknown toxicity

Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
The composition of this mixture is proprietary and is protected as a Trade Secret.	N/A	100

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Skin Contact: After contact with skin, wash immediately with plenty of water.
Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use media suitable to extinguish surrounding fire.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Fire or excessive heat may produce hazardous decomposition products.
Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

Section 6 Spill or Leak Procedures

Safety Data Sheet

Steps to Take in Case Material Is Released or Spilled: No adverse health effects expected from the clean-up of spilled material.
No special spill clean-up considerations. Collect and discard in regular trash.

Section 7 Handling and Storage

Storage: Keep container tightly closed in a cool, well-ventilated place.
Storage Code: Green - general chemical storage

Section 8 Protection Information

<u>Chemical Name</u>	<u>ACGIH</u>		<u>OSHA PEL</u>	
	<u>(TWA)</u>	<u>(STEL)</u>	<u>(TWA)</u>	<u>(STEL)</u>
No data available	N/A	N/A	N/A	N/A

Control Parameters

Engineering Measures: No exposure limits exist for the constituents of this product. General room ventilation might be required to maintain operator comfort under normal conditions of use.

Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.

Respiratory Protection: No respiratory protection required under normal conditions of use.

Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: Natural latex,, Natural rubber, Neoprene, Nitrile, Polyvinyl chloride

Section 9 Physical Data

Formula: N/A, product is a mixture	Vapor Pressure: N/A
Molecular Weight: N/A	Evaporation Rate (BuAc=1): N/A
Appearance: Red Liquid	Vapor Density (Air=1): N/A
Odor: None	Specific Gravity: N/A
Odor Threshold: No data available	Solubility in Water: Soluble
pH: No data available	Log Pow (calculated): No data available
Melting Point: No data available	Autoignition Temperature: No data available
Boiling Point: No data available	Decomposition Temperature: No data available
Flash Point: No data available	Viscosity: No data available
Flammable Limits in Air: N/A	Percent Volatile by Volume: N/A

Section 10 Reactivity Data

Reactivity: No data available

Chemical Stability: Stable under normal conditions.

Conditions to Avoid: None known.

Incompatible Materials: Acids, Caustics (bases), Water-reactive materials

Hazardous Polymerization: Will not occur

Section 11 Toxicity Data

Routes of Entry: Inhalation, ingestion, eye or skin contact.

Symptoms (Acute): N/A

Delayed Effects: No data available

Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
No data available	N/A	Not determined	Not determined	Not determined

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
No data available	N/A	Not listed	Not listed	Not listed

Safety Data Sheet

Chronic Effects:
Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: See Section 2
Chronic: N/A

Section 12 Ecological Data

Overview: This material is not expected to be harmful to the ecology.
Mobility: No data
Persistence: No data
Bioaccumulation: No data
Degradability: No data
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
N/A	N/A	

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): Not Determined

Section 14 Transport Information

Ground - DOT Proper Shipping Name:	Air - IATA Proper Shipping Name:
N/A	Not regulated for air transport by IATA.

Section 15 Regulatory Information

TSCA Status: A component (or components) of this product is not listed on the TSCA Inventory of Existing Chemical Substances. Product is for research and development use only.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
No data available	N/A	No	No	No	No	No

Section 16 Additional Information

Revised: 09/03/2014

Replaces: 09/03/2014

Printed: 09-11-2014

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health

Simulated Blood Typing "Whodunit" Kit

Ward's Science

What Is It Like to Analyze a Crime Scene?

- NGSS Life Science DCIs LS1, LS3
- Pre and post-laboratory assessments
- Links to real world concepts
- Estimated class/lab time required: 45 minutes over 1 day

What Is It Like to Analyze a Crime Scene?

This lab addresses several different approaches for conducting a crime scene investigation. Its scenario-based activity allows students to become detectives and determine "whodunit" while using Ward's® completely safe Simulated Blood. Students attempt to solve a crime by matching the blood type of samples found at the "scene" with those of several suspects. After extracting samples from crime scene fabric stained with Ward's® Simulated Blood, students can analyze them under the microscope, and perform blood type analysis to match the blood type with one of four suspects to help identify the culprit. In completing this lab activity, students employ NGSS Life Science Disciplinary Core Ideas LS1 (Structures and Processes) and LS3 (Heredity).

This kit has been aligned with all published National Standards. Pre- and Post-laboratory assessments and vocabulary words all target specific "Did You Know" concepts that link the real world with the scientific standards explored.

Ordering information: Kit contents include Ward's® Simulated Blood samples (Crime scene, Victim, Suspects #1- #4), Ward's® Simulated anti-sera (A,B,Rh), Blood typing trays, Package of toothpicks (100), Package of microscope slides (72), and Piece of cloth (7 x10"). Materials required but not provided are Compound microscopes, scissors, wax pencil or waterproof marker, and distilled water.

****NO HAZARDOUS INGREDIENTS****

Section 1 Identification

Page E1 of E2

Innovating Science[®] by Aldon Corporation
 "cutting edge science for the classroom"

221 Rochester Street
 Avon, NY 14414-9409
 (585) 226-6177

**CHEMTREC 24 Hour Emergency
 Phone Number (800) 424-9300**
 For laboratory and industrial use only.
 Not for drug, food or household use.

Product SIMULATED BLOOD, TYPE A+
Synonyms Simulated Blood, Type A Positive / Donor #1

Section 2 Hazards identification

Signal word: WARNING
Pictograms: GHS07
Target organs: Blood



GHS Classification:
 Acute toxicity, oral (Category 5)
 Skin irritation (Category 2)
 Eye irritation (Category 2A)

GHS Label information: Hazard statement(s):
 H303: May be harmful if swallowed.
 H315: Causes skin irritation.
 H319: Causes serious eye irritation.

Precautionary statement(s):

P264: Wash hands thoroughly after handling.
 P280: Wear protective gloves/protective clothing/eye protection/face protection.
 P302+P352: IF ON SKIN: Wash with plenty of water and soap.
 P332+P313: If skin irritation occurs: Get medical attention.
 P362+P364: Take off contaminated clothing and wash it before reuse.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+P313: If eye irritation persists: Get medical attention.
 P312: Call a POISON CENTER or doctor if you feel unwell.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known
 Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Water	7732-18-5	90.1%	231-791-2
Aluminum nitrate, nonahydrate	7784-27-2	9.3%	236-751-8 (anhydrous CAS # 13473-90-0)
Food Coloring	Mixture	0.6%	Mixture

Section 4 First aid measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 1 Identification

Page E1 of E2

Innovating Science[®] by Aldon Corporation
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 (585) 226-6177

**CHEMTREC 24 Hour Emergency
 Phone Number (800) 424-9300**
 For laboratory and industrial use only.
 Not for drug, food or household use.

Product SIMULATED BLOOD, TYPE B-
Synonyms Simulated Blood, Type B Negative / Donor #2

Section 2 Hazards identification

Signal word: WARNING
Pictograms: GHS07
Target organs: Blood



GHS Classification:
 Acute toxicity, oral (Category 5)
 Skin irritation (Category 2)
 Eye irritation (Category 2B)

GHS Label information: Hazard statement(s):
 H303: May be harmful if swallowed.
 H315: Causes skin irritation.
 H320: Causes eye irritation.

Precautionary statement(s):

P264: Wash hands thoroughly after handling.
 P280: Wear protective gloves/protective clothing/eye protection/face protection.
 P302+P352: IF ON SKIN: Wash with plenty of water and soap.
 P332+P313: If skin irritation occurs: Get medical attention.
 P361+P364: Take off immediately all contaminated clothing and wash it before reuse.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+P313: If eye irritation persists: Get medical attention.
 P312: Call a POISON CENTER or doctor if you feel unwell.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known
 Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Water	7732-18-5	89.4%	231-791-2
Calcium nitrate, tetrahydrate	13477-34-4	10.0%	233-332-1
Food Coloring	Mixture	0.6%	Mixture

Section 4 First aid measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances.

Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Calcium nitrate	None established	None established	None established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical and chemical properties

Appearance: Red liquid. Odor: No odor. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: Approximately 0°C (32°F) (water) Boiling point: Approximately 100°C (212°F) (water) Flash point: Data not available	Evaporation rate (Water = 1): <1 Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: Data not available Vapor pressure (mm Hg): 14 (water) Vapor density (Air = 1): 0.7 (water) Relative density (Specific gravity): Approximately 1.0 (water) Solubility(ies): Complete in water.	Partition coefficient: Data not available Auto-ignition temperature: Data not available Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: Mixture Molecular weight: Mixture
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Section 10 Stability and reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures to cause evaporation.

Incompatible materials: Ammonia, hydrozine and other reducing agents.

Hazardous decomposition products: Nitrogen oxides.

Section 11 Toxicological information

Acute toxicity: Calcium nitrate: Oral-rat LD50: 3,900 mg/kg

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

Skin: Contact with skin may cause irritation.

Eyes: Causes eye irritation.

Signs and symptoms of exposure: To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: Calcium nitrate: EW3000000

Section 12 Ecological information

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport information

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Marine pollutant: No

Exceptions: Not applicable

2020 ERG Guide #: Not applicable

Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Calcium nitrate (solid)	Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Section 1 Identification

Page E1 of E2

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**CHEMTREC 24 Hour Emergency
 Phone Number (800) 424-9300**
 For laboratory and industrial use only.
 Not for drug, food or household use.

Product SIMULATED BLOOD, TYPE AB+
Synonyms Simulated Blood, Type AB Positive / Donor #3

Section 2 Hazards identification

Signal word: WARNING
Pictograms: GHS07
Target organs: Blood



GHS Classification:
 Acute toxicity, oral (Category 5)
 Skin irritation (Category 2)
 Eye irritation (Category 2A)

GHS Label information: Hazard statement(s):
 H303: May be harmful if swallowed.
 H315: Causes skin irritation.
 H319: Causes serious eye irritation.

Precautionary statement(s):

P264: Wash hands thoroughly after handling.
 P280: Wear protective gloves/protective clothing/eye protection/face protection.
 P302+P352: IF ON SKIN: Wash with plenty of water and soap.
 P332+P313: If skin irritation occurs: Get medical attention.
 P362+P364: Take off contaminated clothing and wash it before reuse.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+P313: If eye irritation persists: Get medical attention.
 P312: Call a POISON CENTER or doctor if you feel unwell.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known
 Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Water	7732-18-5	80.1%	231-791-2
Calcium nitrate, tetrahydrate	13477-34-4	10.0%	233-332-1
Aluminum nitrate, nonahydrate	7784-27-2	9.3%	236-751-8 (anhydrous CAS # 13473-90-0)
Food Coloring	Mixture	0.6%	Mixture

Section 4 First aid measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances.

Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Calcium nitrate	None established	None established	None established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical and chemical properties

Appearance: Red liquid. Odor: No odor. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: Approximately 0°C (32°F) (water) Boiling point: Approximately 100°C (212°F) (water) Flash point: Data not available	Evaporation rate (Water = 1): <1 Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: Data not available Vapor pressure (mm Hg): 14 (water) Vapor density (Air = 1): 0.7 (water) Relative density (Specific gravity): Approximately 1.0 (water) Solubility(ies): Complete in water.	Partition coefficient: Data not available Auto-ignition temperature: Data not available Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: Mixture Molecular weight: Mixture
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Section 10 Stability and reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures to cause evaporation.

Incompatible materials: Ammonia, hydrozine and other reducing agents.

Hazardous decomposition products: Nitrogen oxides.

Section 11 Toxicological information

Acute toxicity: Calcium nitrate: Oral-rat LD50: 3,900 mg/kg / **Aluminum nitrate:** Oral-rat LD50: 3,671 mg/kg

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

Skin: Contact with skin may cause irritation.

Eyes: Causes serious eye irritation.

Signs and symptoms of exposure: To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: Calcium nitrate: EW3000000 / **Aluminum nitrate:** BD1050000

Section 12 Ecological information

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport information

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Marine pollutant: No

Exceptions: Not applicable

2020 ERG Guide # Not applicable

Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Calcium nitrate (solid)	Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.
Aluminum nitrate, nonahydrate	Listed	Not listed	Not listed	Listed	Not listed	

Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Section 1 Identification

Page E1 of E2

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Phone Number (800) 424-9300
 For laboratory and industrial use only.
 Not for drug, food or household use.

Product SIMULATED BLOOD, TYPE O-
Synonyms Simulated Blood, Type O Negative / Donor #4

Section 2 Hazards identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: None required
Pictograms: No symbol required
Target organs: None known

GHS Classification: None required
GHS Label information: Hazard statement: None required
Precautionary statement: None required

Supplemental information:

Do not breathe mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known
 Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Water	7732-18-5	>99%	231-791-2
Food Coloring	Mixture	0.6%	Mixture

Section 4 First aid measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances.

Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	No components listed	None established	None established	None established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical and chemical properties

Appearance: Red liquid. Odor: No odor. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: Approximately 0°C (32°F) (water) Boiling point: Approximately 100°C (212°F) (water) Flash point: Data not available	Evaporation rate (Water = 1): <1 Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: Data not available Vapor pressure (mm Hg): 14 (water) Vapor density (Air = 1): 0.7 (water) Relative density (Specific gravity): Approximately 1.0 (water) Solubility(ies): Complete in water.	Partition coefficient: Data not available Auto-ignition temperature: Data not available Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: Mixture Molecular weight: Mixture
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Section 10 Stability and reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures to cause evaporation.

Incompatible materials: Strong oxidizers and reducing agents may destroy color.

Hazardous decomposition products: Carbon oxides, nitrogen oxides, sulfur oxides.

Section 11 Toxicological information

Acute toxicity: Data not available

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

Skin: Repeated or prolonged contact with skin may cause irritation.

Eyes: Contact may cause irritation.

Signs and symptoms of exposure: To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: Data not available

Section 12 Ecological information

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport information

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Marine pollutant: No

Exceptions: Not applicable

2020 ERG Guide # Not applicable

Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
All components listed with the following agencies	Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Section 1 Identification

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 Phone Number (800) 424-9300**
 For laboratory and industrial use only.
 Not for drug, food or household use.

Product SIMULATED ANTI-SERUM ANTI-A
Synonyms Simulated Anti-A Serum / Anti-A Serum

Section 2 Hazards identification

Signal word: WARNING
Pictograms: No symbol required
Target organs: Liver

GHS Classification:
 Eye irritation (Category 2B)

GHS Label information: Hazard statement:
 H320: Causes eye irritation.

Precautionary statement:

P264: Wash hands thoroughly after handling.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+P313: If eye irritation persists: Get medical attention.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known
 Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Water	7732-18-5	91.99%	231-791-2
Sodium salicylate	54-21-7	8.00%	200-198-0
FD&C Blue #1 (C.I. No. 42090)	3844-45-9	0.001%	223-339-8

Section 4 First aid measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Use extinguishing agent suitable for type of surrounding fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances. Light sensitive.

Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Sodium salicylate	Not established	Not established	Not established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical and chemical properties

Appearance: Liquid. Clear blue. Odor: No odor. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: Approximately 0°C (32°F) (water) Boiling point: Approximately 100°C (212°F) (water) Flash point: Data not available	Evaporation rate (Water = 1): <1 Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: Data not available Vapor pressure (mm Hg): 14 (water) Vapor density (Air = 1): 0.7 (water) Relative density (Specific gravity): Approximately 1.0 (water) Solubility(ies): Complete in water.	Partition coefficient: Data not available Auto-ignition temperature: Data not available Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: Mixture Molecular weight: Mixture
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Section 10 Stability and reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures which cause evaporation. Protect from light.

Incompatible materials: Strong oxidizers, strong acids.

Hazardous decomposition products: Carbon oxides, sodium oxides.

Section 11 Toxicological information

Acute toxicity: Oral-rat LD50: 11,625 mg/kg (acute toxicity estimate)

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Eyes-rabbit - mild irritant

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Not expected to be a health hazard.

Ingestion: May be harmful by ingestion.

Skin: Contact causes irritation.

Eyes: Contact may cause irritation.

Signs and symptoms of exposure: To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: VO5075000 [Sodium salicylate]

Section 12 Ecological information

Toxicity to fish: LC50 - Pimephales promelas (fathead minnow) - 1,370 mg/l - 96 h [Sodium salicylate]

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport information

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Marine pollutant: No

Exceptions: Not applicable

2020 ERG Guide # Not applicable

Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Sodium salicylate	Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Section 1 Identification

Page E1 of E2

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CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
 For laboratory and industrial use only.
 Not for drug, food or household use.

Product	SIMULATED ANTI-SERUM ANTI-B
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Synonyms	Simulated Anti-B Serum / Anti-B Serum
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Section 2 Hazards identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: None required

Pictograms: No symbol required

Target organs: None known

GHS Classification: None required

GHS Label information: Hazard statement: None required

Precautionary statement: None required

Supplemental information:

Do not breathe mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Water	7732-18-5	84.992%	231-791-2
Sodium sulfate	7757-82-6	15.000%	231-820-9
FD&C Yellow #5 (C.I. No. 19140)	1934-21-0	0.008%	217-699-5

Section 4 First aid measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE TRANSIENT IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY CAUSE TRANSIENT IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Use extinguishing agent suitable for type of surrounding fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances.

Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Sodium sulfate	None established.	None established.	None established.

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical and chemical properties

Appearance: Liquid. Clear yellow. Odor: No odor. Odor threshold: Data not available. pH: Data not available Melting / Freezing point: Approximately 0°C (32°F) (water) Boiling point: Approximately 100°C (212°F) (water) Flash point: Data not available	Evaporation rate (Water = 1): <1 Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: Data not available Vapor pressure (mm Hg): 14 (water) Vapor density (Air = 1): 0.7 (water) Relative density (Specific gravity): Approximately 1.0 (water) Solubility(ies): Complete in water.	Partition coefficient: Data not available Auto-ignition temperature: Data not available Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: Mixture Molecular weight: Mixture
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Section 10 Stability and reactivity

Chemical stability: Stable
Hazardous polymerization: Will not occur.
Conditions to avoid: Excessive temperatures which cause evaporation.
Incompatibilities with other materials: Molten active metals, including aluminum and magnesium, acids.
Hazardous decomposition products: Oxides of sulfur.

Section 11 Toxicological information

Acute toxicity: Oral-rat LD50: >10,000 mg/kg
Skin corrosion/irritation: Data not available
Serious eye damage/irritation: Data not available
Respiratory or skin sensitization: Data not available
Germ cell mutagenicity: Data not available
Carcinogenicity: Data not available
 NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
 IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
 OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
 Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.
Reproductive toxicity: Data not available
STOT-single exposure: Data not available
STOT-repeated exposure: Data not available
Aspiration hazard: Data not available
Potential health effects:
 Inhalation: May be harmful if inhaled.
 Ingestion: May be harmful if swallowed.
 Skin: May cause mild irritation.
 Eyes: May cause mild irritation.
Signs and symptoms of exposure: To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.
Additional information: RTECS #: No data available

Section 12 Ecological information

Toxicity to fish: *Gambusia affinis* (Fish, fresh water) LC50: 120 mg/l/96 hours [Sodium sulfate]
Toxicity to daphnia and other aquatic invertebrates: *Daphnia magna* (Crustacea) EC50: 630 mg/l/96 hours [Sodium sulfate]
Toxicity to algae: *Chlorella pyrenoidosa* (Algae) EC199: 57,700 mg/l/8 days [Sodium sulfate]
Persistence and degradability: No data available
Bioaccumulative potential: No data available
Mobility in soil: No data available
PBT and vPvB assessment: No data available
Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport information

UN/NA number: Not applicable
Shipping name: Not Regulated
Hazard class: Not applicable
Packing group: Not applicable
Reportable Quantity: No
Marine pollutant: No
Exceptions: Not applicable
2020 ERG Guide #: Not applicable

Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Sodium sulfate	Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Section 1 Identification

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Product SIMULATED ANTI-SERUM ANTI-RH
Synonyms Simulated Anti-Rh Serum / Anti-Rh Serum

Section 2 Hazards identification

Signal word: WARNING
Pictograms: No symbol required
Target organs: Liver

GHS Classification:
 Eye irritation (Category 2B)

GHS Label information: Hazard statement:
 H320: Causes eye irritation.

Precautionary statement:

P264: Wash hands thoroughly after handling.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+P313: If eye irritation persists: Get medical attention.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known
 Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Water	7732-18-5	92.00%	231-791-2
Sodium salicylate	54-21-7	8.00%	200-198-0

Section 4 First aid measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Use extinguishing agent suitable for type of surrounding fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances. Light sensitive. Protect from light.

Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Sodium salicylate	Not established	Not established	Not established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical and chemical properties

Appearance: Clear liquid Odor: No odor. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: Approximately 0°C (32°F) (water) Boiling point: Approximately 100°C (212°F) (water) Flash point: Data not available	Evaporation rate (Water = 1): <1 Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: Data not available Vapor pressure (mm Hg): 14 (water) Vapor density (Air = 1): 0.7 (water) Relative density (Specific gravity): Approximately 1.0 (water) Solubility(ies): Complete in water.	Partition coefficient: Data not available Auto-ignition temperature: Data not available Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: Mixture Molecular weight: Mixture
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Section 10 Stability and reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures which cause evaporation. Light sensitive.

Incompatible materials: Strong oxidizers, strong acids.

Hazardous decomposition products: Carbon oxides, sodium oxides.

Section 11 Toxicological information

Acute toxicity: Acute toxicity estimate: Oral-rat LD50: 11,625 mg/kg

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Eyes-rabbit - Irritant.

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion: Harmful if swallowed.

Skin: Prolonged contact may cause irritation and/or defatting of skin.

Eyes: Causes serious eye irritation.

Signs and symptoms of exposure: To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: VO5075000 [Sodium salicylate]

Section 12 Ecological information

Toxicity to fish: LC50 - Pimephales promelas (fathead minnow) - 1,370 mg/l - 96 h [Sodium salicylate]

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of nonprofessional handling or disposal.

Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport information

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Marine pollutant: No

Exceptions: Not applicable

2020 ERG Guide #: Not applicable

Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Sodium salicylate	Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Safety Data Sheet
according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.28.2014

Simulated Urine Unknown, 15mL

SECTION 1: Identification of the substance/mixture and of the supplier

Product name: Simulated Urine Unknown, 15mL

Manufacturer/Supplier Trade name:

Manufacturer/Supplier Article number: UK1800-AA

Recommended uses of the product and restrictions on use:

Manufacturer Details:

AquaPhoenix Scientific, Inc.
9 Barnhart Drive
Hanover, PA 17331
1-717-632-1291

Supplier Details:

AquaPhoenix Scientific, Inc
9 Barnhart Drive, Hanover, PA 17331
(717) 632-1291

Emergency telephone number:

ChemTel: (24-hour) (US and Canada)
1-(800)-255-3924

SECTION 2: Hazards identification

Classification of the substance or mixture: Not classified for physical or health hazards under GHS.

Signal word: None

Hazard statements: None

Precautionary statements: None

Other Non-GHS Classification: None

SECTION 3: Composition/information on ingredients

Ingredients:

Ingredients:		
CAS 56-40-6	Glycine, Reagent Grade	1 %
CAS 7732-18-5	Deionized Water	99 %
Percentages are by weight		

SECTION 4: First aid measures

Description of first aid measures

After inhalation:

Loosen clothing as necessary and position individual in a comfortable position. Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen. Do not perform mouth-to-mouth on an unconscious person. Get medical assistance if cough or other symptoms appear.

Safety Data Sheet
according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.28.2014

Simulated Urine Unknown, 15mL**After skin contact:**

Wash hands and exposed skin with soap and plenty of water for 15-20 minutes. Seek medical attention if irritation persists or if concerned.

After eye contact:

Protect unexposed eye. Rinse or flush exposed eye gently using water for 15-20 minutes. Remove contact lenses, if present and easy to do, and continue rinsing. Occasionally lift the upper and lower eyelids while rinsing. Immediately get medical assistance.

After swallowing:

Do not induce vomiting. Seek medical attention immediately.

Most important symptoms and effects, both acute and delayed:

Shortness of breath. Irritation. Nausea. Headache.

Indication of any immediate medical attention and special treatment needed:

If necessary use trained response staff or contractor. Physician should treat symptomatically.

SECTION 5: Firefighting measures**Extinguishing media****Suitable extinguishing agents:**

Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

Unsuitable extinguishing agents: None

Special hazards arising from the substance or mixture: None

Advice for firefighters:**Protective equipment:**

Wear protective eyewear, gloves, and clothing. Refer to Section 8.

Additional information (precautions):

Avoid contact with skin, eyes, and clothing. Avoid generating dust. May cause skin irritation. May cause eye irritation. May cause gastrointestinal tract irritation with nausea, vomiting, and diarrhea. May cause respiratory tract irritation.

SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures:**

Normal ventilation is adequate.

Environmental precautions:

Prevent from reaching drains, sewer, or waterway.

Methods and material for containment and cleaning up:

Sweep up and containerize for disposal. Avoid generating dust. Always obey local regulations. If necessary use trained response staff or contractor. Provide ventilation. Wear protective eyewear, gloves, and clothing. Store away from incompatible materials. Refer to Section 5. Dispose of empty containers as unused product. Refer to Section 13. Refer to Section 8.

Reference to other sections: None

SECTION 7: Handling and storage**Precautions for safe handling:**

Refer to Section 5. Refer to Section 8. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. Use only in well ventilated areas. Avoid contact with eyes, skin, and clothing.

Safety Data Sheet
according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.28.2014

Simulated Urine Unknown, 15mL

Conditions for safe storage, including any incompatibilities:

Keep container tightly closed in a cool, dry, well-ventilated area. Store away from incompatible materials. Refer to Section 5 and 10.

SECTION 8: Exposure controls/personal protection

Control parameters:	56-40-6, Glycine, ACGIH TLV: NA, OSHA PEL: NA.
Appropriate engineering controls:	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Normal ventilation is adequate.
Respiratory protection:	Not required under normal conditions of use. Normal ventilation is adequate.
Protection of skin:	Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.
Eye protection:	Safety glasses with side shields or goggles.
General hygienic measures:	Wash hands before breaks and at the end of work. Wash hands and exposed skin with soap and plenty of water. Perform routine housekeeping to prevent dust generation. Before wearing wash contaminated clothing.

SECTION 9: Physical and chemical properties

Appearance (physical state, color):	Clear, colorless liquid	Explosion limit lower:	Not determined
		Explosion limit upper:	Not determined
Odor:	Odorless	Vapor pressure at 20°C:	Not determined
Odor threshold:	Not determined	Vapor density:	Not determined
pH-value:	Not determined	Relative density:	Approx 1
Melting/Freezing point:	Approx 0C	Solubilities:	Soluble in water.
Boiling point/Boiling range:	Approx 100C	Partition coefficient (n-octanol/water):	Not determined
Flash point (closed cup):	Not determined	Auto/Self-ignition temperature:	Not determined
Evaporation rate:	Not determined	Decomposition temperature:	Not determined
Flammability (solid, gaseous):	Not determined	Viscosity:	a. Kinematic: Not determined b. Dynamic: Not determined
Density at 20°C:	Not determined		
Molecular Weight:	75.05 g/mol		

SECTION 10: Stability and reactivity**Reactivity:**

None under normal processing.

Safety Data Sheet
according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.28.2014

Simulated Urine Unknown, 15mL

Chemical stability:

Stable under normal conditions. moisture sensitive.

Possible hazardous reactions:

None under normal processing.

Conditions to avoid:

Dust generation, excessive heat, moisture, incompatible materials.

Incompatible materials:

Strong oxidizing agents.

Hazardous decomposition products:

Nitrogen oxides. Carbon oxides. Irritating and highly toxic gases or fumes.

SECTION 11: Toxicological information

Acute Toxicity:

Chronic Toxicity: No additional information.

Skin corrosion/irritation: No additional information.

Serious eye damage/irritation: No additional information.

Respiratory or skin sensitization: No additional information.

Carcinogenicity: No additional information.

Germ cell mutagenicity: No additional information.

Reproductive Toxicity: No additional information.

STOT-single and repeated exposure: No additional information.

Additional toxicological information: No additional information.

SECTION 12: Ecological information

Ecotoxicity: No additional information.

Persistence and degradability: No additional information.

Bioaccumulative potential: No additional information.

Mobility in soil: No additional information.

Other adverse effects: No additional information.

SECTION 13: Disposal considerations

Waste disposal recommendations:

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure complete and accurate classification.

SECTION 14: Transport information

US DOT

UN Number:

ADR, ADN, DOT, IMDG, IATA

None

Limited Quantity Exception:

None

Safety Data Sheet
according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.28.2014

Simulated Urine Unknown, 15mL

<p>Bulk: RQ (if applicable): None Proper shipping Name: None Hazard Class: None Packing Group: None Marine Pollutant (if applicable): No additional information. Comments: None</p>	<p>Non Bulk: RQ (if applicable): None Proper shipping Name: None Hazard Class: None Packing Group: None Marine Pollutant (if applicable): No additional information. Comments: None</p>
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SECTION 15: Regulatory information

United States (USA)

SARA Section 311/312 (Specific toxic chemical listings):

None of the ingredients are listed.

SARA Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

RCRA (hazardous waste code):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

All ingredients are listed.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

None of the ingredients are listed.

Proposition 65 (California):

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Canada

Canadian Domestic Substances List (DSL):

All ingredients are listed.

SECTION 16: Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of

Safety Data Sheet
according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 12.28.2014

Simulated Urine Unknown, 15mL

handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

NFPA: 1-0-0

HMIS: 1-0-0

GHS Full Text Phrases: None

Abbreviations and Acronyms:

IMDG International Maritime Code for Dangerous Goods.
PNEC. Predicted No-Effect Concentration (REACH).
CFR Code of Federal Regulations (USA).
SARA Superfund Amendments and Reauthorization Act (USA).
RCRA. Resource Conservation and Recovery Act (USA).
TSCA. Toxic Substances Control Act (USA).
NPRI National Pollutant Release Inventory (Canada).
DOT US Department of Transportation.
IATA International Air Transport Association.
GHS Globally Harmonized System of Classification and Labelling of Chemicals.
ACGIH American Conference of Governmental Industrial Hygienists.
CAS Chemical Abstracts Service (division of the American Chemical Society).
NFPA National Fire Protection Association (USA).
HMIS Hazardous Materials Identification System (USA).
WHMIS Workplace Hazardous Materials Information System (Canada).
DNEL Derived No-Effect Level (REACH).

Section 1: Chemical Product and Company Information



5100 West Henrietta Rd
 PO Box 92912
 Rochester, NY 14692-9012
 Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
 For laboratory use only.
 Not for drug, food or household use.

Product	SODIUM ACETATE, ANHYDROUS
Synonyms	Acetic Acid, Sodium Salt

Section 2: Hazards Identification

OSHA Hazards: No known OSHA hazards.

Signal word: WARNING
Pictograms: No symbol required
Target organs: None known

GHS Classification:
 Acute toxicity, oral (Category 5)
 Acute toxicity, inhalation (Category 5)
 Skin irritation (Category 3)
 Eye irritation (Category 2B)

GHS Label information: Hazard statement:
 H303: May be harmful if swallowed.
 H333: May be harmful if inhaled.
 H316: Causes mild skin irritation.
 H320: Causes eye irritation.

Precautionary statement:

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3: Composition/ Information on Ingredients

Chemical Name	CAS #	%	EINECS
Sodium acetate	127-09-3	100%	204-823-8

Section 4: First Aid Measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5: Fire Fighting Measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6: Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Safety Data Sheet

Sodium Acetate, Anhydrous



Section 1 Product Description

Product Name: Sodium Acetate, Anhydrous
Recommended Use: Science education applications
Synonyms: Sodium Ethanoate, Acetic Acid, Sodium Salt
Distributor: Carolina Biological Supply Company, 2700 York Road, Burlington, NC 27215-3398
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

WARNING

Causes eye irritation.

GHS Classification:
Serious Eye Damage/Eye Irritation Category 2B, Skin Corrosion/Irritation Category 3

Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Sodium Acetate, Anhydrous	127-09-3	100

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin Contact: After contact with skin, wash immediately with plenty of water.
Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use dry chemical, CO2 or appropriate foam.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Fire or excessive heat may produce hazardous decomposition products.
Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill. Avoid the generation of dusts during clean-up. Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

Safety Data Sheet

Section 7 Handling and Storage

Handling: Wash thoroughly after handling. Do not breathe dust. Readily absorbs moisture from air.
Storage: Keep container tightly closed in a cool, well-ventilated place.
Keep in air-tight containers- material is hygroscopic.
Storage Code: Green - general chemical storage

Section 8 Protection Information

<u>Chemical Name</u>	<u>ACGIH</u>	<u>OSHA PEL</u>
	(TWA)	(TWA)
	(STEL)	(STEL)
Sodium Acetate	N/A	N/A
	N/A	N/A

Control Parameters

Engineering Measures: No exposure limits exist for the constituents of this product. General room ventilation might be required to maintain operator comfort under normal conditions of use.

Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.

Respiratory Protection: No respiratory protection required under normal conditions of use.

Respirator Type(s): None required where adequate ventilation is provided. If airborne concentrations are above the applicable exposure limits, use NIOSH/MSHA approved respiratory protection.

Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: No information available

Section 9 Physical Data

Formula: NaC ₂ H ₃ O ₂	Vapor Pressure: No data available
Molecular Weight: 82.03	Evaporation Rate (BuAc=1): No data available
Appearance: Colorless to White Crystalline Solid	Vapor Density (Air=1): No data available
Odor: None	Specific Gravity: 1.45
Odor Threshold: No data available	Solubility in Water: Soluble
pH: No data available	Log Pow (calculated): No data available
Melting Point: 324 C	Autoignition Temperature: 611 C
Boiling Point: No data available	Decomposition Temperature: No data available
Flash Point: No data available	Viscosity: No data available
Flammable Limits in Air: No data available	Percent Volatile by Volume: No data available

Section 10 Reactivity Data

Reactivity: Not generally reactive under normal conditions.

Chemical Stability: Stable under normal conditions.

Conditions to Avoid: Exposure to moisture

Incompatible Materials: Strong oxidizing agents

Hazardous Polymerization: Will not occur

Section 11 Toxicity Data

Symptoms (Acute): No data available
Delayed Effects: No data available

Acute Toxicity:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Inhalation LC50</u>
Sodium Acetate, Anhydrous	127-09-3	Oral LD50 Rat 3530 mg/kg	Dermal LD50 Rabbit > 10 g/kg	INHALATION LC50-1H Rat > 30 G/M3

Safety Data Sheet

Carcinogenicity:
Chemical Name Sodium Acetate, Anhydrous **CAS Number** 127-09-3 **IARC** Not listed **NTP** Not listed **OSHA** Not listed

Chronic Effects:
Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: No data available
Chronic: No data available

Section 12 Ecological Data

Overview: This material is not expected to be harmful to the ecology.
Mobility: This material is expected to have high mobility in soil. It absorbs weakly to most soil types.
Persistence: Dissolved into water, Biodegradation
Bioaccumulation: Bioconcentration is not expected to occur.
Degradability: Biodegrades quickly.
Other Adverse Effects: No data

Chemical Name Sodium Acetate, Anhydrous **CAS Number** 127-09-3 **Eco Toxicity**
 24 HR LC50 LEPOMIS MACROCHIRUS 5000 MG/L [STATIC]
 48 HR EC50 DAPHNIA MAGNA > 1000 MG/L

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): Not Determined

Section 14 Transport Information

Ground - DOT Proper Shipping Name: Not regulated for transport by US DOT. **Air - IATA Proper Shipping Name:** Not regulated for air transport by IATA.

Section 15 Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Sodium Acetate, Anhydrous	127-09-3	No	No	No	No	No

Section 16 Additional Information

Revised: 06/20/2013 **Replaces:** 05/10/2013 **Printed:** 06-21-2013

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value

Safety Data Sheet

TSCA
IDLH

Toxic Substances Control Act
Immediately dangerous to life and health

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 707.00

Revision Date: January 16, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Sodium Bicarbonate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 5). May be harmful if swallowed (H303).

Product should be treated as a chemical and is not for consumption as it has been stored with other nonfood-grade chemicals.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Sodium bicarbonate	144-55-8	NaHCO ₃	84.01	
Synonyms: Sodium hydrogen carbonate; Baking soda				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Noncombustible solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store with hydroxides, oxides, silicates and carbonates. Stable under dry storage conditions. Slowly decomposes in moist air. Store in a Flinn Chem-Saf™ bag.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White powder or crystals (frequently in lumps). Odorless.
Soluble: Water. Insoluble in alcohol.

Melting point: loses carbon dioxide at 270 °C
Specific gravity: 2.2
Not for human consumption.

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers and strong acids.
Shelf life: Indefinite, if kept dry. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Gastrointestinal disturbances, irritating dust
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD₅₀: 4220 mg/kg
IHL-RAT LC₅₀: N.A.
SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (205-633-8).

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: January 16, 2014

Safety Data Sheet

Sodium Bicarbonate

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Sodium Bicarbonate
Recommended Use: Science education applications
Synonyms: Baking soda, Sodium Acid Carbonate, Carbonic Acid, Sodium Salt
Distributor: Carolina Biological Supply Company, 2700 York Road, Burlington, NC 27215-3398
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

Not a dangerous substance according to GHS classification criteria. No known OSHA hazards.

GHS Classification:

Acute Toxicity Dermal Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Gas	100 % of the mixture consists of ingredient(s) of unknown toxicity
Contains	
Acute Toxicity Inhalation Vapor	100 % of the mixture consists of ingredient(s) of unknown toxicity
Contains	
Acute Toxicity Inhalation Dust/Mist	100 % of the mixture consists of ingredient(s) of unknown toxicity
Contains	

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%
Sodium Bicarbonate	144-55-8	100

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Skin Contact: After contact with skin, wash immediately with plenty of water.
Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use media suitable to extinguish surrounding fire.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Fire or excessive heat may produce hazardous decomposition products.
Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

Section 6 Spill or Leak Procedures

Steps to Take in Case Material is Released or Spilled: No health effects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section 8 of this MSDS. Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

Section 7 Handling and Storage

Handling: Avoid creating and inhaling dust.

Safety Data Sheet

Storage: Keep container tightly closed in a cool, well-ventilated place.
Storage Code: Green - general chemical storage

Section 8 Protection Information

Chemical Name	ACGIH (TWA)	ACGIH (STEL)	OSHA PEL (TWA)	OSHA PEL (STEL)
Sodium Bicarbonate	N/A	N/A	N/A	N/A

Control Parameters

Engineering Measures: No exposure limits exist for the constituents of this product. General room ventilation might be required to maintain operator comfort under normal conditions of use.

Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.

Respiratory Protection: No respiratory protection required under normal conditions of use.

Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: No information available

Section 9 Physical Data

Formula: NaHCO ₃	Vapor Pressure: No data available
Molecular Weight: 84.00	Evaporation Rate (BuAc=1): No data available
Appearance: White Powder	Vapor Density (Air=1): No data available
Odor: None	Specific Gravity: 2.159
Odor Threshold: No data available	Solubility in Water: Soluble
pH: No data available	Log Pow (calculated): No data available
Melting Point: No data available	Autoignition Temperature: No data available
Boiling Point: No data available	Decomposition Temperature: 50 C
Flash Point: No data available	Viscosity: No data available
Flammable Limits in Air: No data available	Percent Volatile by Volume: No data available

Section 10 Reactivity Data

Reactivity: Not generally reactive under normal conditions.

Chemical Stability: Stable under normal conditions.

Conditions to Avoid: None known.

Incompatible Materials: Acids

Hazardous Decomposition Products: Carbon oxides

Hazardous Polymerization: Will not occur

Section 11 Toxicity Data

Routes of Entry: Ingestion.

Symptoms (Acute): Alkalosis, Diarrhea, Hypertension

Delayed Effects: No data available

Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Sodium Bicarbonate	144-55-8	Oral LD50 Rat 4220 mg/kg	Not applicable	Not applicable

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Sodium Bicarbonate	144-55-8	Not listed	Not listed	Not listed

Chronic Effects:

Mutagenicity: No evidence of a mutagenic effect.

Safety Data Sheet

Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: No data available
Chronic: No data available

Section 12 Ecological Data

Overview: This material is not expected to be harmful to the ecology.
Mobility: This material is expected to have high mobility in soil. It absorbs weakly to most soil types.
Persistence: No data
Bioaccumulation: No data
Degradability: No data
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
Sodium Bicarbonate	144-55-8	48 HR EC50 DAPHNIA MAGNA 2350 MG/L 120 HR EC50 NITZSCHIA LINEARIS 650 MG/L

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): Not Determined

Section 14 Transport Information

Ground - DOT Proper Shipping Name: Not regulated for transport by US DOT.	Air - IATA Proper Shipping Name: Not regulated for air transport by IATA.
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Section 15 Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Sodium Bicarbonate	144-55-8	No	No	No	No	No

Section 16 Additional Information

Revised: 04/26/2013

Replaces: 04/26/2013

Printed: 06-21-2013

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health

Safety Data Sheet
according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

Sodium Bicarbonate 0.1M

SECTION 1: Identification of the substance/mixture and of the supplier

Product name: Sodium Bicarbonate 0.1M

Manufacturer/Supplier Trade name:

Manufacturer/Supplier Article number: KEMS86151-A

Recommended uses of the product and restrictions on use:

Manufacturer Details:

AquaPhoenix Scientific, Inc.
9 Barnhart Drive
Hanover, PA 17331
1-717-632-1291

Supplier Details:

AquaPhoenix Scientific Inc.
9 Barnhart Drive, Hanover PA 17331
(717) 632-1291

Emergency telephone number:

ChemTel: (24-hour) (US and Canada)
1-(800)-255-3924

SECTION 2: Hazards identification
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Classification of the substance or mixture: Not classified for physical or health hazards under GHS.

Signal word: None

Hazard statements: None

Precautionary statements: None

Other Non-GHS Classification: None

SECTION 3: Composition/Information on Ingredients
--

Ingredients:

Ingredients:		
CAS 7732-18-5	Water	99.978 %
CAS 540-72-7	Sodium Thiocyanate	0.81 %
CAS 26628-22-8	Sodium Azide	0.02 %
Percentages are by weight		

SECTION 4: First aid measures

Description of first aid measures

After inhalation:

Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Seek medical advice if discomfort or irritation persists. If breathing difficult, give oxygen.

Safety Data Sheet
according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

Sodium Bicarbonate 0.1M

After skin contact:

Wash affected area with soap and water. Rinse/flush exposed skin gently using water for 15-20 minutes. Seek medical advice if discomfort or irritation persists.

After eye contact:

Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention if irritation persists or if concerned.

After swallowing:

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

Most important symptoms and effects, both acute and delayed:

Irritation. Nausea. Headache. Shortness of breath.

Indication of any immediate medical attention and special treatment needed:

If seeking medical attention, provide SDS document to physician.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing agents:

If in laboratory setting, follow laboratory fire suppression procedures.

Unsuitable extinguishing agents: None

Special hazards arising from the substance or mixture: None

Advice for firefighters:

Protective equipment:

Use NIOSH-approved respiratory protection/breathing apparatus.

Additional information (precautions):

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible. Use spark-proof tools and explosion-proof equipment.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Wear protective equipment. Ensure adequate ventilation. Stop the spill, if possible.

Environmental precautions:

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

Methods and material for containment and cleaning up:

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor. Collect liquid and dilute with water and release to drain. For larger spills, absorb with suitable material.

Reference to other sections: None

SECTION 7: Handling and storage

Precautions for safe handling:

Wash hands after handling. Follow good hygiene procedures when handling chemical materials. Use only in well ventilated areas. Avoid contact with eyes, skin, and clothing.

Conditions for safe storage, including any incompatibilities:

Provide ventilation for containers. Store away from foodstuffs. Store in cool, dry conditions in well sealed containers. Store with like hazards.

Safety Data Sheet
according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

Sodium Bicarbonate 0.1M

SECTION 8: Exposure controls/personal protection



Control parameters:	No applicable occupational exposure limits.
Appropriate engineering controls:	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling. Normal ventilation is adequate.
Respiratory protection:	Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.
Protection of skin:	The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
Eye protection:	Safety glasses with side shields or goggles.
General hygienic measures:	The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

SECTION 9: Physical and chemical properties

Appearance (physical state, color):	Clear, colorless liquid	Explosion limit lower:	Not determined
		Explosion limit upper:	Not determined
Odor:	Slight ammonia odor	Vapor pressure at 20°C:	Not determined
Odor threshold:	Not determined	Vapor density:	Not determined
pH-value:	Not determined	Relative density:	Approx 1
Melting/Freezing point:	Approx 0 C	Solubilities:	Infinite solubility in water.
Boiling point/Boiling range:	Approx 100C	Partition coefficient (n-octanol/water):	Not determined
Flash point (closed cup):	Not determined	Auto/Self-ignition temperature:	Not determined
Evaporation rate:	Not determined	Decomposition temperature:	Not determined
Flammability (solid, gaseous):	Not determined	Viscosity:	a. Kinematic: Not determined b. Dynamic: Not determined
Density at 20°C:	Not determined		

SECTION 10: Stability and reactivity

Reactivity:

Nonreactive under normal conditions.

Chemical stability:

No decomposition if used and stored according to specifications.

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according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

Sodium Bicarbonate 0.1M

Possible hazardous reactions:

None under normal processing.

Conditions to avoid:

Store away from oxidizing agents, strong acids or bases. Incompatible Materials.

Incompatible materials:

Strong acids. Strong bases.

Hazardous decomposition products:

Nitrogen oxides (NOx). Carbon oxides.

SECTION 11: Toxicological information

Acute Toxicity:

Chronic Toxicity: No additional information.

Skin corrosion/irritation: No additional information.

Serious eye damage/irritation: No additional information.

Respiratory or skin sensitization: No additional information.

Carcinogenicity: No additional information.

Germ cell mutagenicity: No additional information.

Reproductive Toxicity: No additional information.

STOT-single and repeated exposure: No additional information.

Additional toxicological information: No additional information.

SECTION 12: Ecological information

Ecotoxicity: No additional information.

Persistence and degradability:

Readily degradable in the environment.

Bioaccumulative potential: No additional information.

Mobility in soil: No additional information.

Other adverse effects: No additional information.

SECTION 13: Disposal considerations

Waste disposal recommendations:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

SECTION 14: Transport information

US DOT

UN Number:

ADR, ADN, DOT, IMDG, IATA

Not Dangerous Goods

Limited Quantity Exception:

None

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Sodium Bicarbonate 0.1M

Bulk:

RQ (if applicable): None

Proper shipping Name: Not Dangerous Goods.

Hazard Class: None

Packing Group: Not Dangerous Goods.

Marine Pollutant (if applicable): No additional information.

Comments: None

Non Bulk:

RQ (if applicable): None

Proper shipping Name: Not Dangerous Goods.

Hazard Class: None

Packing Group: Not Dangerous Goods.

Marine Pollutant (if applicable): No additional information.

Comments: None

SECTION 15: Regulatory Information

United States (USA)

SARA Section 311/312 (Specific toxic chemical listings):

None of the ingredients are listed.

SARA Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

RCRA (hazardous waste code):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

All ingredients are listed.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

None of the ingredients are listed.

Proposition 65 (California):

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Canada

Canadian Domestic Substances List (DSL):

All ingredients are listed.

SECTION 16: Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information

Safety Data Sheet
according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 01.08.2015

Sodium Bicarbonate 0.1M

contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

NFPA: 1-0-0

HMIS: 1-0-0

GHS Full Text Phrases: None

Abbreviations and Acronyms:

IMDG International Maritime Code for Dangerous Goods.
PNEC. Predicted No-Effect Concentration (REACH).
CFR Code of Federal Regulations (USA).
SARA Superfund Amendments and Reauthorization Act (USA).
RCRA. Resource Conservation and Recovery Act (USA).
TSCA. Toxic Substances Control Act (USA).
NPRI National Pollutant Release Inventory (Canada).
DOT US Department of Transportation.
IATA International Air Transport Association.
GHS Globally Harmonized System of Classification and Labelling of Chemicals.
ACGIH American Conference of Governmental Industrial Hygienists.
CAS Chemical Abstracts Service (division of the American Chemical Society).
NFPA National Fire Protection Association (USA).
HMIS Hazardous Materials Identification System (USA).
WHMIS Workplace Hazardous Materials Information System (Canada).
DNEL Derived No-Effect Level (REACH).



Safety Data Sheet

Sodium Bicarbonate, Powder, ACS

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Sodium Bicarbonate, Powder, ACS

Synonyms/Generic Names: Baking Soda; Bicarbonate of soda; Sodium acid carbonate; Monosodium carbonate; Sodium hydrogen carbonate; Carbonic acid monosodium salt

Product Number: 4840

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI. 53925

For More Information Call: 920-623-2140 (Monday-Friday 8:00-4:30)

In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

OSHA Hazards: No known OSHA hazards

Target Organs: None

Signal Word: Warning

Pictograms: None

GHS Classification:

Acute toxicity, Oral	Category 5
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GHS Label Elements, including precautionary statements:

Hazard Statements:	
H303	May be harmful if swallowed.

Precautionary Statements:	

Potential Health Effects

Eyes	May cause eye irritation.
Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Ingestion	May be harmful if swallowed.

NFPA Ratings

Health	1
Flammability	0
Reactivity	0
Specific hazard	Not Available

HMIS Ratings

Health	1
Fire	0
Reactivity	0
Personal	A

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Sodium Bicarbonate	100	144-55-8	205-633-8	NaHCO ₃	84.01 g/mol

4. FIRST-AID MEASURES

Eyes	In case of eye contact, rinse with plenty of water and seek medical attention if necessary.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if necessary.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention if necessary.
Ingestion	Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention if necessary.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Product is not flammable. Use appropriate media for adjacent fire. Cool unopened containers with water.
Special protective equipment and precautions for firefighters	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
Specific hazards arising from the chemical	Emits toxic fumes (carbon oxides, sodium oxides) under fire conditions. (See also Stability and Reactivity section).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Pick up and arrange disposal without creating dust. Sweep up and place in suitable, closed containers for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of dusts.

Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls: Contains no substances with occupational exposure limit values.

Personal Protection

Eyes	Wear chemical safety glasses or goggles.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear nitrile or rubber gloves, apron or lab coat.
Other	Not Available

Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	White solid.
Odor	Odorless.
Odor threshold	Not Available
pH	Not Available
Melting point/freezing point	300°C (572°F)
Initial boiling point and boiling range	Not Available
Flash point	Not Flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Explosive
Vapor pressure	Not Available
Vapor density	Not Available
Density	2.159 (Water = 1)
Solubility (ies)	Soluble in cold water. Slightly soluble in alcohol.
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Moisture. Stable in dry air, but slowly decomposes in moist air.
Incompatible Materials	Strong oxidizing agents, strong acids.
Hazardous Decomposition Products	Carbon oxides, sodium oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Skin	Not Available
Eyes	Not Available
Respiratory	Not Available
Ingestion	LD50 Oral - rat - 4,220 mg/kg

Carcinogenicity

IARC	No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs & Symptoms of Exposure

Skin	Irritation.
Eyes	Irritation.
Respiratory	Irritation, coughing.
Ingestion	Irritation, nausea, vomiting, diarrhea, gastrointestinal disturbance.

Chronic Toxicity	Not Available
Teratogenicity	Not Available
Mutagenicity	Not Available
Embryotoxicity	Not Available
Specific Target Organ Toxicity	Not Available
Reproductive Toxicity	Not Available
Respiratory/Skin Sensitization	Not Available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Vertebrate	Not Available
Aquatic Invertebrate	Not Available
Terrestrial	Not Available

Persistence and Degradability	Not Available
Bioaccumulative Potential	Not Available
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Not Available

13. DISPOSAL CONSIDERATIONS

Waste Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

US DOT	Not Dangerous Goods
TDG	Not Dangerous Goods
IMDG	Not Dangerous Goods
Marine Pollutant	No
IATA/ICAO	Not Dangerous Goods

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	No SARA Hazards
SARA 312	No SARA Hazards
SARA 313	Not Listed
WHMIS Canada	Not Listed

16. OTHER INFORMATION

Revision	Date
Revision 1	08-17-2012

Disclaimer: Columbus Chemical Industries, Inc. ("Columbus") believes that the information herein is factual but is not intended to be all inclusive. The information relates only to the specific material designated and does not relate to its use in combination with other materials or its use as to any particular process. Because safety standards and regulations are subject to change and because Columbus has no continuing control over the material, those handling, storing or using the material should satisfy themselves that they have current information regarding the particular way the material is handled, stored or used and that the same is done in accordance with federal, state and local law. COLUMBUS MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION) WARRANTIES WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN OR WITH RESPECT TO FITNESS FOR ANY PARTICULAR USE.

Section 1 Chemical Product and Company Information

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5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product	SODIUM BISULFATE, ANHYDROUS
Synonyms	Sodium Acid Sulfate / Sodium Hydrogen Sulfate

Section 2 Hazards Identification

Signal word: DANGER
Pictograms: GHS05
Target organs: None known



GHS Classification:
Serious eye damage (Category 1)

GHS Label information: Hazard statement:
H318: Causes serious eye damage.

Precautionary statement:

P280: Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER or doctor.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Sodium bisulfate	7681-38-1	100%	231-665-7

Section 4 First Aid Measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE DAMAGE. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION AND/OR BURNS. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Product readily dissolves in water to form weak Sulfuric acid solution. Sulfuric acid is highly corrosive and causes severe burns on contact.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Hygroscopic. Moisture sensitive. Protect from moisture.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Sodium bisulfate	Not established	Not established	Not established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Solid. White, crystalline. Hygroscopic.	Evaporation rate (= 1): Data not available	Partition coefficient: Data not available
Odor: No odor.	Flammability (solid/gas): Data not available.	Auto-ignition temperature: Data not available
Odor threshold: Data not available.	Explosion limits: Lower / Upper: Data not available	Decomposition temperature: Data not available.
pH: Data not available.	Vapor pressure (mm Hg): Data not available	Viscosity: Data not available.
Melting / Freezing point: 177°C (350°F)	Vapor density (Air = 1): Data not available	Molecular formula: NaHSO ₄
Boiling point: Decomposes	Relative density (Specific gravity): 2.435 @ 13°C	Molecular weight: 120.06
Flash point: Non combustible	Solubility(ies): Soluble in water.	

Section 10 Stability & Reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Moisture and excessive temperatures.

Incompatible materials: Alkalies, strong oxidizers, and permanganates. Reacts with water to form weak Sulfuric acid solution.

Hazardous decomposition products: Oxides of sulfur.

Section 11 Toxicological Information

Acute toxicity: Oral-rat LD50: 2490 mg/kg

Skin corrosion/irritation: Skin-rabbit - Slight irritant.

Serious eye damage/irritation: Eyes-rabbit - Severe irritant.

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Dust may cause upper respiratory tract irritation. May irritate or burn nose, throat or lungs.

Ingestion: May irritate or burn mouth, esophagus or stomach.

Skin: Prolonged or repeated contact may cause irritation and/or burns.

Eyes: Contact may cause severe burns.

Signs and symptoms of exposure: Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: VZ1860000

Section 12 Ecological Information

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacea), EC50 = 190 mg/L/48 hours

Toxicity to algae: No data available

Persistence and degradability: No data available **Bioaccumulative potential:** No data available

Mobility in soil: No data available **PBT and vPvB assessment:** No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information (US DOT / CANADA TDG)


UN/NA number: UN1759 **Shipping name:** Corrosive solids, n.o.s., (Sodium hydrogen sulfate)

Hazard class: 8 **Packing group:** III **Reportable Quantity:** No **Marine pollutant:** No

Exceptions: Limited quantity equal to or less than 5 Kg **2012 ERG Guide #** 154

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERCLA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Sodium bisulfate	Listed	Not listed	Not listed	Listed	Not listed	 E

Section 16 Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Safety Data Sheet
acc. to OSHA HCS

10080
Printing date 05/06/2015

SB17039

SB13569
Reviewed on 02/10/2014

1 Identification

- **Product identifier**
- **Trade name:** Sodium Borate Decahydrate, Reagent ACS Grade Granular
- **Article number:** SB13569
- **CAS Number:** 1303-96-4
- **EC number:** 215-540-4
- **Index number:** 005-011-01-1
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Nasco
901 Janesville Avenue
Fort Atkinson, WI 53538-0901
1-800-558-9595.enasco.com
- **Information department:**
INFOTRAC USA - CANADA: 1-800-535-5053
INTERNATIONAL: 1-352-323-3500
Product safety department
Technical Coordinator
Sherman Nelson sherman@aquasolutions.org
- **Emergency telephone number:**
Chemtrec: 800-424-9300
Camtec: 613-996-6666



2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Repr. 1B H360 May damage fertility or the unborn child.

- **Label elements**
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS08

- **Signal word** Danger
- **Hazard statements**
May damage fertility or the unborn child.
- **Precautionary statements**
Wear protective gloves/protective clothing/eye protection/face protection.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
IF exposed or concerned: Get medical advice/attention.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/06/2015

Reviewed on 02/10/2014

Trade name: Sodium Borate Decahydrate, Reagent ACS Grade Granular

(Contd. of page 1)

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 1
Fire = 0
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



HEALTH 1 Health = 1
FIRE 0 Fire = 0
REACTIVITY 0 Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT: Not applicable.**
- **vPvB: Not applicable.**

3 Composition information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
1303-96-4 Sodium Borate Decahydrate
- **Identification number(s)**
- **EC number: 215-540-4**
- **Index number: 005-011-01-1**

- **SVHC**

1303-96-4 Sodium Borate Decahydrate

4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

USA

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/06/2015

Reviewed on 02/10/2014

Trade name: Sodium Borate Decahydrate, Reagent ACS Grade Granular

(Contd. of page 2)

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Precautions for safe handling** Open and handle receptacle with care.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

1303-96-4 Sodium Borate Decahydrate

REL	Long-term value: 5 mg/m ³
TLV	Short-term value: 6* mg/m ³ Long-term value: 2* mg/m ³ *as inhalable fraction

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
- **Breathing equipment:** Not required.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

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USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/06/2015

Reviewed on 02/10/2014

Trade name: Sodium Borate Decahydrate, Reagent ACS Grade Granular

(Contd. of page 3)

- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Not required.

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Crystalline
Color:	White
Odor:	Odorless
Odour threshold:	Not determined.

· **pH-value:** Not applicable.

· Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Product is not flammable.

· Ignition temperature:

Decomposition temperature: Not determined.

· **Auto igniting:** Not determined.

· **Danger of explosion:** Product does not present an explosion hazard.

· Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

· **Vapor pressure:** Not applicable.

· **Density at 20 °C (68 °F):** 1.73 g/cm³ (14.437 lbs/gal)

· **Relative density** Not determined.

· **Vapour density** Not applicable.

· **Evaporation rate** Not applicable.

· Solubility in / Miscibility with

Water at 20 °C (68 °F): 38.1 g/l

· **Partition coefficient (n-octanol/water):** Not determined.

· Viscosity:

Dynamic: Not applicable.

Kinematic: Not applicable.

· **Other information** No further relevant information available.

USA

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acc. to OSHA HCS

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Printing date 05/06/2015

Reviewed on 02/10/2014

Trade name: Sodium Borate Decahydrate, Reagent ACS Grade Granular

(Contd. of page 4)

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.
- **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
- **Water hazard class 1 (Assessment by list):** slightly hazardous for water
- **Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
- **Must not be disposed of together with household garbage. Do not allow product to reach sewage system.**
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

USA

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Safety Data Sheet

acc. to OSHA HCS

Printing date 05/06/2015

Reviewed on 02/10/2014

Trade name: Sodium Borate Decahydrate, Reagent ACS Grade Granular

(Contd. of page 5)

14 Transport information

· UN-Number	
· DOT	Not regulated
· UN proper shipping name	
· DOT	Not regulated
· Transport hazard class(es)	
· DOT	Not applicable
· Packing group	
· DOT	Not applicable
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara
- Section 355 (extremely hazardous substances): Substance is not listed.
- Section 313 (Specific toxic chemical listings): Substance is not listed.
- TSCA (Toxic Substances Control Act): Substance is listed.
- Proposition 65
- Chemicals known to cause cancer: Substance is not listed.
- Chemicals known to cause reproductive toxicity for females: Substance is not listed.
- Chemicals known to cause reproductive toxicity for males: Substance is not listed.
- Chemicals known to cause developmental toxicity: Substance is not listed.
- Carcinogenic categories

· EPA (Environmental Protection Agency)	
1303-96-4 Sodium Borate Decahydrate	I (oral)
· TLV (Threshold Limit Value established by ACGIH)	
1303-96-4 Sodium Borate Decahydrate	AA

- NIOSH-Ca (National Institute for Occupational Safety and Health) Substance is not listed.
- GHS label elements The substance is classified and labeled according to the Globally Harmonized System (GHS).
- Hazard pictograms



GHS08

- Signal word Danger
- Hazard statements
May damage fertility or the unborn child.
- Precautionary statements
Wear protective gloves/protective clothing/eye protection/face protection.
Obtain special instructions before use.

(Contd. on page 7)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/06/2015

Reviewed on 02/10/2014

Trade name: Sodium Borate Decahydrate, Reagent ACS Grade Granular

(Contd. of page 6)

Do not handle until all safety precautions have been read and understood.

IF exposed or concerned: Get medical advice/attention.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing SDS: Environment protection department.

Contact: Mr. Nelson

Date of preparation / last revision

Revision 0,0, 05-06-2015: Creation Date for SDS BAB

Creation date for SDS 01-02-2015. STN

Creation date for SDS 06-06-2014. STN

05/06/2015 / -

Abbreviations and acronyms:

DOT: US Department of Transportation

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

Repr. 1B: Reproductive toxicity, Hazard Category 1B

USA

Safety Data Sheet

Sodium Borate, 4%

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Sodium Borate, 4%
Recommended Use: Science education applications
Synonyms: Sodium Tetraborate Solution; Borax Solution
Distributor: Carolina Biological Supply Company
2700 York Road, Burlington, NC 27215
1-800-227-1150
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

GHS Classification:

Other Safety Precautions: Not a dangerous substance according to GHS classification criteria.
No known OSHA hazards.

Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Water	7732-18-5	96
Sodium Tetraborate, 10-hydrate	1303-96-4	4

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Skin Contact: After contact with skin, wash immediately with plenty of water.
Ingestion: If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use media suitable to extinguish surrounding fire.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: N/A
Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section 8 of this (M)SDS. Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

Section 7 Handling and Storage

Handling: Do not ingest or take internally.
Storage: Keep container tightly closed in a cool, well-ventilated place.

Safety Data Sheet

Storage Code: Green - general chemical storage

Section 8 Protection Information

Chemical Name	ACGIH		OSHA PEL	
	(TWA)	(STEL)	(TWA)	(STEL)
Sodium Tetraborate, 10-hydrate	2 mg/m3 TWA (inhalable fraction, listed under Borate compounds, inorganic)	6 mg/m3 STEL (inhalable fraction, listed under Borate compounds, inorganic)	N/A	N/A

Control Parameters

Engineering Measures:

No exposure limits exist for the constituents of this product. General room ventilation might be required to maintain operator comfort under normal conditions of use.

Personal Protective Equipment (PPE):

Lab coat, apron, eye wash, safety shower.

Respiratory Protection:

No respiratory protection required under normal conditions of use.

Eye Protection:

Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection:

Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves:

No information available

Section 9 Physical Data

Formula: Na₂B₄O₇ • 10 H₂O

Molecular Weight: N/A

Appearance: Colorless Liquid

Odor: None

Odor Threshold: No data available

pH: No data available

Melting Point: No data available

Boiling Point: 100 C

Flash Point: No data available

Flammable Limits in Air: N/A

Vapor Pressure: N/A

Evaporation Rate (BuAc=1): N/A

Vapor Density (Air=1): N/A

Specific Gravity: 1

Solubility in Water: Soluble

Log Pow (calculated): No data available

Autoignition Temperature: No data available

Decomposition Temperature: No data available

Viscosity: No data available

Percent Volatile by Volume: N/A

Section 10 Reactivity Data

Reactivity:

Not generally reactive under normal conditions.

Chemical Stability:

Stable under normal conditions.

Conditions to Avoid:

None known.

Incompatible Materials:

Water-reactive materials, Alkaloid Salts, Metal Salts

Hazardous Polymerization:

Will not occur

Section 11 Toxicity Data

Routes of Entry

Inhalation, ingestion, eye or skin contact.

Symptoms (Acute):

Gastrointestinal, Eye Irritation, Respiratory Irritation

Delayed Effects:

No data available

Acute Toxicity:

Chemical Name

Water

CAS Number

7732-18-5

Oral LD50

Oral LD50 Rat
90000 mg/kg

Dermal LD50

Inhalation LC50

Safety Data Sheet

Sodium Tetraborate, 10-hydrate 1303-96-4 Oral LD50 Rat
1200 mg/kg
Oral LD50 Mouse
1060 mg/kg
Oral LD50 Rat
2660 mg/kg
Oral LD50 Mouse
2 GM/KG

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Sodium Tetraborate, 10-hydrate	1303-96-4	Listed	Not listed	Not listed

Chronic Effects:

Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: No information available
Chronic: Not listed as a carcinogen by IARC, NTP or OSHA.

Section 12 Ecological Data

Overview: This material is not expected to be harmful to the ecology.
Mobility: No data
Persistence: Adsorbs to soil., Dissolved into water
Bioaccumulation: No data
Degradability: No data
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
Water	7732-18-5	No data available
Sodium Tetraborate, 10-hydrate	1303-96-4	

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): If discarded, this product is considered a RCRA toxic waste.

Section 14 Transport Information

Ground - DOT Proper Shipping Name: Not regulated for transport by DOT.
Air - IATA Proper Shipping Name: Not regulated for air transport by IATA.

Section 15 Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Sodium Tetraborate, 10-hydrate	1303-96-4	No	No	No	No	No

Section 16 Additional Information

Revised: 09/03/2014 **Replaces:** 09/03/2014 **Printed:** 09-11-2014

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Safety Data Sheet

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health

Section 1 - Product and Company Identification



5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product SODIUM BORATE, DECAHYDRATE
Synonyms Sodium Tetraborate ; Borax

Section 2 - Hazard Identification

Signal word: DANGER
Pictograms: GHS08 / GHS07
Target organs: None known.



GHS Classification:
Eye irritation (Category 2A)
Reproductive toxicity (Category 1B)

GHS Label information: Hazard statement:
H319: Causes serious eye irritation.
H360: May damage fertility or the unborn child.

Precautionary statement:

P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P305+P361+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists: Get medical attention.
P308+P313: IF exposed or concerned: Get medical attention.
P405: Store locked up.
P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3 - Composition/Information on Ingredients

Chemical Name	CAS #	%	EINECS
Sodium borate, decahydrate	1303-96-4	100%	215-540-4

Section 4 - First Aid Measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 - Fire Fighting Measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: This product is an inherent fire retardant. There are no unusual fire and explosion hazards.

Section 6 - Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 1 Chemical Product and Company Identification

Page E1 of E2



5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

Boreal Science
399 Vansickle Road
St. Catharines, Ontario
L2S 3T4 Canada
Tel: (800) 387-9393

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product	SODIUM BROMIDE
---------	----------------

Synonyms	Sedoneural
----------	------------

Section 2 Hazards Identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: None required

Pictograms: No symbol required

Target organs: None known

GHS Classification: None required

GHS Label information: Hazard statement: None required

Precautionary statement: None required

Supplemental information:

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 3 Composition/Information on Ingredients

Chemical Name	CAS #	%	EINECS
Sodium bromide	7647-15-6	minimum 99%	231-599-9

Section 4 First Aid

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Suitable Extinguishing Media: Use extinguishing agent suitable for type of surrounding fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Sodium bromide	Not established	Not established	Not established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Solid. White, crystalline powder	Evaporation rate (= 1): Data not available	Partition coefficient: Data not available
Odor: No odor	Flammability (solid/gas): Data not available	Auto-ignition temperature: Data not available
Odor threshold: Data not available	Explosion limits: Lower / Upper: Data not available	Decomposition temperature: Data not available
pH: Data not available	Vapor pressure (mm Hg): 1 mm @ 1483°F	Viscosity: Data not available
Melting / Freezing point: 755°C (1391°F)	Vapor density (Air = 1): Data not available	Molecular formula: NaBr
Boiling point: 1391°C (2534°F)	Relative density (Specific gravity): 3.203 @ 25°C	Molecular weight: 102.90
Flash point: Not flammable	Solubility(ies): 95 g/100 ml water @ 77°F	

Section 10 Stability & Reactivity

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Contact with acids can liberate hydrogen bromide. Contact with oxidizers can liberate bromine.

Incompatible materials: Strong oxidizers and acids.

Hazardous decomposition products: Hydrogen bromide gas and/or bromine gas.

Section 11 Information on Ingredients

Acute toxicity: Oral-rat LD50: 3500 mg/kg ; Dermal-rabbit LD50: 2000 mg/kg

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Dusts may cause irritation to the respiratory tract. Symptoms may include coughing and shortness of breath.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting, and diarrhea. May be harmful if swallowed.

Skin: Contact may cause irritation. May be harmful if absorbed through the skin.

Eyes: Contact causes mild irritation.

Signs and symptoms of exposure: To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: VZ3150000

Section 12 Environmental Information

Toxicity to fish: Lepomis macrochirus (Bluegill sunfish), concentration: >1000 mg/L/96H

Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Water flea), concentration: >1000 mg/L/48H

Toxicity to algae: Scenedesmus pannonicus (Algae), concentration: 5800 mg/L/24H

Persistence and degradability: No data available **Bioaccumulative potential:** No data available

Mobility in soil: No data available **PBT and vPvB assessment:** No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Marine pollutant: No

Exceptions: Not applicable

2012 ERG Guide # Not applicable

A chemical is considered to be listed if the CAS number for the anhydrous form is on the inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL
Sodium bromide	Listed	Not listed	Not listed	Listed	Not listed

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 716.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Sodium Carbonate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 5). May be harmful if swallowed (H303).

Hazard class: Skin corrosion or irritation (Category 3). Causes mild skin irritation (H316).

Hazard class: Serious eye damage or irritation (Category 2A). Causes serious eye irritation (H319).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Sodium carbonate, anhydrous	497-19-8	Na ₂ CO ₃	105.99	
Synonym: Soda ash				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

If on skin: Wash with plenty of water. **If skin irritation occurs:** Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Do not allow solid to become airborne. Ventilate area. Wipe up, place in sealed bag or container and dispose. Wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store with hydroxides, oxides, silicates and carbonates. Hygroscopic. Keep container tightly closed. Store in Flinn Chem-Saf™ bag. Store in a cool dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White crystals or powder. Odorless.
Soluble: Water and glycerol. Insoluble in alcohol.

Melting point: 856 °C
Specific gravity: 2.54

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with acids, aluminum. Reacts vigorously with fluorine.
Shelf life: Fair, hygroscopic. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant
Chronic effects: N.A.
Target organs: Investigated as a mutagen.

ORL-RAT LD₅₀: 4090 mg/kg
IHL-RAT LC₅₀: 2300 mg/m³ 2 Hour
SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

LC₅₀ 96 Hr *Lepomis macrochirus*: 300 mg/L

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (207-838-8).

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

Safety Data Sheet

Sodium Carbonate, Anhydrous

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Sodium Carbonate, Anhydrous
Recommended Use: Science education applications
Synonyms: Soda Ash, Carbonic Acid, Sodium Salt
Distributor: Carolina Biological Supply Company, 2700 York Road, Burlington, NC 27215-3398
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

WARNING



Causes serious eye irritation.

GHS Classification:
Serious Eye Damage/Eye Irritation Category 2A

Acute Toxicity Inhalation Gas Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Vapor Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Dust/Mist Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity

Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Sodium Carbonate, Anhydrous	497-19-8	100

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use media suitable to extinguish surrounding fire.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Fire or excessive heat may produce hazardous decomposition products.
Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

Section 6 Spill or Leak Procedures

Safety Data Sheet

Steps to Take in Case Material Is Released or Spilled:

Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill.

Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

Section 7 Handling and Storage

Handling: Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Storage: Keep container tightly closed in a cool, well-ventilated place.

Material is hygroscopic (absorbs moisture).

Storage Code: Green - general chemical storage

Section 8 Protection Information

Chemical Name	ACGIH		OSHA PEL	
	(TWA)	(STEL)	(TWA)	(STEL)
Sodium Carbonate, Anhydrous	N/A	N/A	N/A	N/A

Control Parameters

Engineering Measures: No exposure limits exist for the constituents of this product. General room ventilation might be required to maintain operator comfort under normal conditions of use.

Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.

Respiratory Protection: No respiratory protection required under normal conditions of use.

Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: No information available

Section 9 Physical Data

Formula: Na ₂ CO ₃	Vapor Pressure: No data available
Molecular Weight: 105.99	Evaporation Rate (BuAc=1): No data available
Appearance: White to Gray Powder	Vapor Density (Air=1): No data available
Odor: None	Specific Gravity: 2.532
Odor Threshold: No data available	Solubility in Water: Soluble
pH: No data available	Log Pow (calculated): No data available
Melting Point: No data available	Autoignition Temperature: No data available
Boiling Point: No data available	Decomposition Temperature: No data available
Flash Point: No data available	Viscosity: No data available
Flammable Limits in Air: No data available	Percent Volatile by Volume: No data available

Section 10 Reactivity Data

Reactivity: Not generally reactive under normal conditions.

Chemical Stability: Stable under normal conditions.

Conditions to Avoid: None known.

Incompatible Materials: Hot Aluminum, Strong acids, Strong oxidizing agents, Strong reducing agents

Hazardous Polymerization: Will not occur

Section 11 Toxicity Data

Routes of Entry: Inhalation, ingestion, eye or skin contact.

Symptoms (Acute): Respiratory Irritation, Drooling

Delayed Effects: No data available

Safety Data Sheet

Acute Toxicity:

Chemical Name Sodium Carbonate, Anhydrous	CAS Number 497-19-8	Oral LD50 Oral LD50 Rat 4090 mg/kg	Dermal LD50 Dermal LD50 Mouse 2210 mg/kg	Inhalation LC50 Not applicable
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Carcinogenicity:

Chemical Name No data available	CAS Number 497-19-8	IARC Not listed	NTP Not listed	OSHA Not listed
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Chronic Effects:

Mutagenicity:	No evidence of a mutagenic effect.
Teratogenicity:	No evidence of a teratogenic effect (birth defect).
Sensitization:	No evidence of a sensitization effect.
Reproductive:	No evidence of negative reproductive effects.
Target Organ Effects:	
Acute:	No information available
Chronic:	No information available

Section 12

Ecological Data

Overview:	This material is not expected to be harmful to the ecology.
Mobility:	No data
Persistence:	No data
Bioaccumulation:	No data
Degradability:	No data
Other Adverse Effects:	No data

Chemical Name Sodium Carbonate, Anhydrous	CAS Number 497-19-8	Eco Toxicity 96 HR LC50 LEPOMIS MACROCHIRUS 300 MG/L [STATIC] 48 HR EC50 DAPHNIA MAGNA 265 MG/L 120 HR EC50 NITZSCHIA 242 MG/L
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Section 13

Disposal Information

Disposal Methods:	Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s):	Not Determined

Section 14

Transport Information

Ground - DOT Proper Shipping Name: Not regulated for transport by US DOT.	Air - IATA Proper Shipping Name: Not regulated for air transport by IATA.
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Section 15

Regulatory Information

TSCA Status:	All components in this product are on the TSCA Inventory.					
Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Sodium Carbonate, Anhydrous	497-19-8	No	No	No	No	No

Section 16

Additional Information

Revised: 04/10/2013 Replaces: None Printed: 06-21-2013

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP OSHA	National Toxicology Program Occupational Safety and Health Administration
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Safety Data Sheet

CAS	Chemical Abstract Service Number	PEL	Permissible Exposure Limit
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	ppm	Parts per million
DOT	U.S. Department of Transportation	RCRA	Resource Conservation and Recovery Act
IARC	International Agency for Research on Cancer	SARA	Superfund Amendments and Reauthorization Act
N/A	Not Available	TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health

Section 1

Identification of the chemical product

Page 1 of 1



5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product SODIUM CARBONATE, ANHYDROUS

Synonyms Soda Ash

Section 2

Hazard identification

Signal word: WARNING

Pictograms: GHS07

Target organs: None known.



GHS Classification:

Eye irrit. (Category 2A)

GHS Label information: Hazard statement:

H319: Causes serious eye irritation.

Precautionary statement:

P264: Wash hands thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical advice/attention.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3

Composition of the chemical product

Chemical Name	CAS #	%	EINECS
Sodium carbonate	497-19-8	100%	207-838-8

Section 4

First aid measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5

Fire-fighting measures

Extinguishing Media: Use any media suitable for extinguishing supporting fire.

General information: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Sodium carbonate reacts with hydrated lime to form caustic soda. Special care should be taken where lime and sodium carbonate are handled in the same area.

Section 6

Accidental release measures

Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation. Recover for use if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water. Avoid runoff into storm sewers and ditches which lead to waterways.

Section 2 Hazard Identification

Read label on container before using. Do not wear contact lenses when working with chemicals. Keep container tightly closed. Keep out of reach of children. Use with adequate ventilation. Wash thoroughly after handling.

Handling: Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid ingestion. Do not inhale dusts. Wash thoroughly after handling. Remove and wash clothing before reuse.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 3 Exposure Controls/Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Sodium carbonate	None established.	None established.	None established.

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 4 Physical and Chemical Properties

Appearance: Solid, white powder.
Odor: No odor.
Odor threshold: Data not available.
pH: Data not available.
Melting / Freezing point: 864°C (1587°F)
Boiling point: Decomposes
Flash point: Not flammable

Evaporation rate (= 1): Data not available
Flammability (solid/gas): Data not available.
Explosion limits: Lower / Upper: Not flammable
Vapor pressure (mm Hg): Data not available
Vapor density (Air = 1): Data not available
Relative density (Specific gravity): 2.533
Solubility(ies): 17% @ 20°C in water

Partition coefficient: Data not available
Auto-ignition temperature: Data not available
Decomposition temperature: 1000°C (1832°F)
Viscosity: Data not available.
Molecular formula: Na₂CO₃
Molecular weight: 105.99

Section 5 Instability and Reactivity

Chemical stability: Stable
Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures. Hygroscopic material, avoid moisture.

Incompatibilities with other materials: Acids cause decomposition liberating gaseous carbon dioxide. When mixed with lime dust and water, corrosive and caustic soda may be produced.

Hazardous decomposition products: Carbon dioxide.

Section 6 Toxicological Information

Acute toxicity: Oral-rat LD50: 4090 mg/kg ; Inhalation-rat LC50: 2.3 mg/l/2 hours ; Dermal-rat LD50: 2210 mg/kg

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available.

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.

Ingestion: May cause irritation of the digestive tract. May be harmful if swallowed.

Skin: May be harmful if absorbed through skin. Causes skin irritation.

Eyes: Causes eye irritation.

Signs and symptoms of exposure: Burning sensation, cough, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting.

Additional Information: RTECS #: VZ4050000

Section 7 Environmental Fate

Toxicity to fish: LC50 - Lepomis macrochirus (Bluegill) - 300 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - 265 mg/l - 48 h

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 8 Disposal Considerations

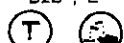
These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 9 Physical and Chemical Properties

UN/NA number: Not applicable **Shipping name:** Not Regulated
Hazard class: Not applicable **Packing group:** Not applicable **Reportable Quantity:** No **Marine pollutant:** No
Exceptions: Not applicable **2012 ERG Guide #** Not applicable

Section 10 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERCLA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Sodium carbonate	Listed	Not listed	Not listed	Not listed	Not listed	D2B ; E 

Section 11 Other Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 720.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

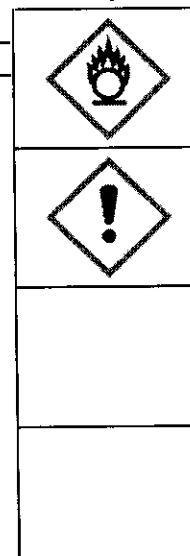
Sodium Chlorate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Oxidizing solids (Category 1). May cause fire or explosion; strong oxidizer (H271).

Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat, drink or smoke when using this product (P270).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Sodium chlorate	7775-09-9	NaClO ₃	106.45	
Synonym: Chloric acid, sodium salt				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water. **If on clothing:** Rinse immediately contaminated clothing and skin with plenty of water before removing clothes (P306+P360).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell (P301+P330+P312).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solid.

Strong oxidizer. Severe fire and explosion risk when in contact with combustible material.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher. Fight fire remotely due to risk of explosion (P370+P378+P375).

NFPA CODE
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #6. Store with chlorates, bromates, iodates, chlorites, perchloric acid, and peroxides. Store in a cool dry place. Keep away from combustible materials (P220). Take any precautions to avoid mixing with combustibles (P221).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear fire- or flame-resistant clothing (P283). Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Colorless crystals. Odorless.
Soluble: Water and alcohol

Boiling point: 630 °C (decomposes)
Melting point: 248 °C
Specific gravity: 2.5

SECTION 10 — STABILITY AND REACTIVITY

Contact with organic materials may cause a fire. Avoid contact with strong acids, cyanides, isocyanates, copper, zinc, sulfur, aluminum, phosphorus, ammonium salts and friction.

Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Toxic, corrosive. Human red blood cells are damaged when ingested.
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD₅₀: 1200 mg/kg
IHL-RAT LC₅₀: N.A.
SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #12a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Sodium Chlorate. Hazard class: 5.1, Oxidizer. UN number: UN1495.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-887-4), RCRA code D001.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

Section 1 Chemical Product and Company Information

Page E1 of E2



**Aldon
Corporation**

221 Rochester Street
Avon, NY 14414
(585) 226-6177

**CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300**
For laboratory use only.
Not for drug, food or household use.

Product SODIUM CHLORIDE
Synonyms Common Salt / Rock Salt

Section 2 Hazards Identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: Not classified
Pictograms: Not classified
Target organs: None known

GHS Classification: Not classified
GHS Label information: Hazard statement(s): Not classified
Precautionary statement(s): Not classified

Supplementary information:

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Sodium chloride	7647-14-5	100%	231-598-3

Section 4 First Aid Measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 1 Chemical Product and Company Information Page 1 of 2

5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product	SODIUM CHLORIDE
Synonyms	Common Salt / Rock Salt

Section 2 Hazards Identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: Not classified
Pictograms: Not classified
Target organs: None known

GHS Classification: Not classified
GHS Label information: Hazard statement(s): Not classified
Precautionary statement(s): Not classified

Supplementary information:

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Sodium chloride	7647-14-5	100%	231-598-3

Section 4 First Aid Measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 721.00

Revision Date: February 6, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Sodium Chloride

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Acute toxicity, oral (Category 5). May be harmful if swallowed (H303).

Product should be treated as a chemical and is not for consumption as it has been stored with other nonfood-grade chemicals.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Sodium chloride	7647-14-5	NaCl	58.45	
Synonym: Table salt				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell (P312).

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If skin irritation occurs: Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Noncombustible solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA Code
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates. Somewhat hygroscopic. Keep container tightly closed. Store in a cool dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White crystalline powder. Odorless.
Soluble: Water. Slightly in alcohol.

Boiling point: 1465 °C
Melting point: 801 °C
Specific gravity: 2.17
Not for human use.

SECTION 10 — STABILITY AND REACTIVITY

Reacts violently with bromine trifluoride and lithium. Avoid contact with strong oxidizers, acids, bromine.
Shelf life: Fair, somewhat hygroscopic. See Section 7 for further information.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant, dehydration.
Chronic effects: N.A.
Target organs: Investigated as a mutagen, reproductive effector.

ORL-RAT LD₅₀: 3000 mg/kg
IHL-RAT LC₅₀: >42 g/m³ 1Hr
SKN-RBT LD₅₀: >10 mg/kg

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-598-3).

SECTION 16 — OTHER INFORMATION

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Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: February 6, 2014

Safety Data Sheet

Sodium Chloride

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Sodium Chloride

Recommended Use: Science education applications

Synonyms: Table Salt, Common Salt, Halite, Rock Salt

Distributor: Carolina Biological Supply Company, 2700 York Road, Burlington, NC 27215-3398

Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)

Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

Not a dangerous substance according to GHS classification criteria. No known OSHA hazards.

GHS Classification:

Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Sodium Chloride	7647-14-5	100

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.

Eyes: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin Contact: After contact with skin, wash immediately with plenty of water.

Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use media suitable to extinguish surrounding fire.

Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.

Fire and/or Explosion Hazards: No data available

Hazardous Combustion Products: No data available

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section 8 of this MSDS. Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

Section 7 Handling and Storage

Handling: Avoid creating and inhaling dust.

Storage: Keep container tightly closed in a cool, well-ventilated place.

Storage Code: Green - general chemical storage

Section 8 Protection Information

Safety Data Sheet

Chemical Name	ACGIH		OSHA PEL	
	(TWA)	(STEL)	(TWA)	(STEL)
Sodium Chloride	N/A	N/A	N/A	N/A

Control Parameters

Engineering Measures:	No exposure limits exist for the constituents of this product. General room ventilation might be required to maintain operator comfort under normal conditions of use.
Personal Protective Equipment (PPE):	Lab coat, apron, eye wash, safety shower.
Respiratory Protection:	No respiratory protection required under normal conditions of use.
Eye Protection:	Wear chemical splash goggles when handling this product. Have an eye wash station available.
Skin Protection:	Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.
Gloves:	No information available

Section 9 Physical Data

Formula: NaCl	Vapor Pressure: 1 mmHg at 865°C
Molecular Weight: 58.44	Evaporation Rate (BuAc=1): No data available
Appearance: Colorless to White Crystalline Solid	Vapor Density (Air=1): No data available
Odor: None	Specific Gravity: 2.16
Odor Threshold: No data available	Solubility in Water: Soluble
pH: No data available	Log Pow (calculated): No data available
Melting Point: No data available 801 C	Autoignition Temperature: No data available
Boiling Point: 1461 C	Decomposition Temperature: No data available
Flash Point: No data available	Viscosity: No data available
Flammable Limits in Air: No data available	Percent Volatile by Volume: No data available

Section 10 Reactivity Data

Reactivity:	Not generally reactive under normal conditions.
Chemical Stability:	Stable under normal conditions.
Conditions to Avoid:	None known.
Incompatible Materials:	Bromine Trifluoride, Lithium
Hazardous Decomposition Products:	No data available
Hazardous Polymerization:	Will not occur

Section 11 Toxicity Data

Routes of Entry	Ingestion.
Symptoms (Acute):	Diarrhea, Abdominal Cramps, Vomiting, Impaired Kidney Function
Delayed Effects:	No data available

Acute Toxicity:	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Chemical Name	7647-14-5	ORAL LD50 Rat 3 g/kg	DERMAL LD50 Rabbit > 10 g/kg	INHALATION LC50-1H Rat > 42 G/M3
Sodium Chloride				

Carcinogenicity:	CAS Number	IARC	NTP	OSHA
Chemical Name	7647-14-5	Not listed	Not listed	Not listed
Sodium Chloride				

Chronic Effects:	
Mutagenicity:	No evidence of a mutagenic effect.
Teratogenicity:	No evidence of a teratogenic effect (birth defect).
Sensitization:	No evidence of a sensitization effect.

Safety Data Sheet

Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: No information available
Chronic: No information available

Section 12 Ecological Data

Overview: This material is not expected to be harmful to the ecology.
Mobility: This material is expected to have very high mobility in soil. It does not absorb to most soil types.
Persistence: Dissolved into water
Bioaccumulation: Bioconcentration is not expected to occur.
Degradability: No data
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
Sodium Chloride	7647-14-5	96 HR LC50 LEPOMIS MACROCHIRUS 12946 MG/L [STATIC] 48 HR EC50 DAPHNIA MAGNA 1000 MG/L

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): Not Determined

Section 14 Transport Information

Ground - DOT Proper Shipping Name: Not regulated for transport by US DOT.
Air - IATA Proper Shipping Name: Not regulated for air transport by IATA.

Section 15 Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Sodium Chloride	7647-14-5	No	No	No	No	No

Section 16 Additional Information

Revised: 03/28/2013 **Replaces:** 01/28/2013 **Printed:** 06-21-2013

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 722.00

Revision Date: January 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Sodium Chloride Solution

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

Product should be treated as a chemical and is not for consumption as it has been stored with other nonfood-grade chemicals.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Sodium chloride	7647-14-5	NaCl	58.45	0.6-10%
Water	7732-18-5	H ₂ O	18.00	90-99%

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Contain spill with sand or absorbent material; deposit in sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Colorless liquid. Odorless.

SECTION 10 — STABILITY AND REACTIVITY

Shelf life: Good, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant, dehydration.

Chronic effects: N.A.

Target organs: N.A.

ORL-RAT LD₅₀: 3000 mg/kg as sodium chloride

IHL-RAT LC₅₀: >42 g/m³ 1Hr as sodium chloride

SKN-RBT LD₅₀: >10 mg/kg as sodium chloride

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

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Revision Date: January 21, 2014

Section 1 Chemical Product and Company Identification

Page E1 of E2



5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

Boreal Science
399 Vansickle Road
St. Catharines, Ontario
L2S 3T4 Canada
Tel: (800) 387-9393

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product SODIUM CHROMATE, ANHYDROUS
Synonyms Disodium Chromate(VI) / Chromate of Soda

Section 2 Hazards Identification

Signal word: DANGER**Pictograms:** GHS05 / GHS06 / GHS08 / GHS09**Target organs:** Lungs, Kidneys**GHS Classification:**

Acute toxicity, oral (Category 3)	Acute toxicity, dermal (Category 4)
Skin corrosion (Category 1B)	Skin sensitization (Category 1)
Acute toxicity, inhalation (Category 2)	Respiratory sensitization (Category 1)
Mutagenicity (Category 1B)	Carcinogenicity (Category 1B)
Reproductive toxicity (Category 1B)	STOT-RE (Category 1)
Aquatic toxicity, acute (Category 1)	Aquatic toxicity, chronic (Category 1)

GHS Label information: Hazard statement:

H301: Toxic if swallowed.
H312: Harmful in contact with skin.
H314: Causes severe skin burns and eye damage.
H317: May cause an allergic skin reaction.
H330: Fatal if inhaled.
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H340: May cause genetic defects.
H350: May cause cancer.
H360FD: May damage fertility. May damage the unborn child.
H372: Causes damage to organs through prolonged or repeated exposure.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.

Precautionary statement:

P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P260: Do not breathe dust.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P272: Contaminated work clothing should not be allowed out of the workplace.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P284: Wear respiratory protection.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363: Wash contaminated clothing before reuse.
P310: Immediately call a POISON CENTER or doctor.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P391: Collect spillage.
P405: Store locked up.
P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65: This chemical is known to the State of California to cause cancer or reproductive toxicity. (Chromium [hexavalent compounds])

Chemical Name	CAS #	%	EINECS
Sodium chromate, anhydrous	7775-11-3	100%	231-889-5

INGESTION: TOXIC IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: FATAL IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES EYE DAMAGE. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: CAUSES SEVERE SKIN BURNS. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Suitable Extinguishing Media: Dry chemical, CO₂ or water spray.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution. Containers may explode when heated. Do not get water inside containers.

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 7 Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Chromium(VI) inorganic compounds	TWA: 0.05 mg/m ³ (A1) as Cr	TWA: 0.005 mg/m ³ as Cr(VI)	TWA: 0.001 mg/m ³ as Cr

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Solid. Deliquescent. Yellow crystals	Evaporation rate (= 1): Data not available	Partition coefficient: Data not available
Odor: No odor	Flammability (solid/gas): Data not available	Auto-ignition temperature: Data not available
Odor threshold: Data not available	Explosion limits: Lower / Upper: Data not available	Decomposition temperature: Data not available
pH: Data not available	Vapor pressure (mm Hg): Data not available	Viscosity: Data not available
Melting / Freezing point: 792°C (1458°F)	Vapor density (Air = 1): Data not available	Molecular formula: Na ₂ CrO ₄
Boiling point: Data not available	Relative density (Specific gravity): 2.723 @ 25°C	Molecular weight: 161.99
Flash point: Data not available	Solubility(ies): 44% in water	

Section 10 Stability & Reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures and heat.

Incompatible materials: Combustible materials, reducing agents.

Hazardous decomposition products: Chromium oxides, carbon oxides, sodium hydroxide, or sodium oxides may also be produced.

Section 11 Toxicological Information

Acute toxicity: Oral-rat LD50: 51.91 mg/kg ; Inhalation-rat LC50: 0.104 mg/L/4hours ; Dermal-rabbit LD50: 1600 mg/kg

Skin corrosion/irritation: Skin-rabbit - irritant

Serious eye damage/irritation: Eyes-rabbit - Severe irritant

Respiratory or skin sensitization: Sensitizer

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: Known to be a human carcinogen.

IARC classified: Group 1: Carcinogenic to humans.

OSHA: Specifically regulated carcinogen (Sodium chromate).

Ca Prop 65: This chemical is known to the State of California to cause cancer or reproductive toxicity.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Inhalation may cause burning sensation, sore throat, cough, wheezing, and labored breathing. Repeated or prolonged inhalation may cause asthma.

Ingestion: Ingestion may cause nausea, vomiting, abdominal pain, burning sensation, diarrhea, shock or collapse.

Skin: Contact with skin causes redness, pain and/or burns. Repeated or prolonged contact may cause skin sensitization.

Eyes: Contact with eyes causes redness, pain, blurred vision, severe deep burns.

Signs and symptoms of exposure: Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: GB2955000

Section 12 Ecological Information

Toxicity to fish: LC50 - Pimephales promelas (fathead minnow) - 17.6 mg/L - 96.0 h

Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - 0.021 mg/L - 48 h

Toxicity to algae: EC50 - Scenedesmus quadricauda (Algae) - 580 µg/L/growth rate

Persistence and degradability: No data available **Bioaccumulative potential:** No data available

Mobility in soil: No data available **PBT and vPvB assessment:** No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information DOT / IATA / ICGO

UN/NA number: UN3288 **Shipping name:** Toxic solid, inorganic, n.o.s., (Sodium chromate)

Hazard class: 6.1 **Packing group:** III **Reportable Quantity:** 10 lbs (4.54 kg) **Marine pollutant:** No

Exceptions: Limited quantity equal to or less than 5 kg **2012 ERG Guide #** 151

Section 15 Environmental Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL
Sodium chromate	Listed	10 lbs	Not listed	Listed	Not listed

Section 16 Other Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Safety Data Sheet

Sodium Citrate, Dihydrate



Section 1 Product Description

Product Name: Sodium Citrate, Dihydrate
Recommended Use: Science education applications
Synonyms: Trisodium Citrate Dihydrate, Citric Acid, Trisodium Salt
Distributor: Carolina Biological Supply Company
2700 York Road, Burlington, NC 27215
1-800-227-1150
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;
Not a dangerous substance according to GHS classification criteria. No known OSHA hazards.
GHS Classification:

Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Sodium Citrate, Dihydrate	6132-04-3	100

Section 4 First Aid Measures

Emergency and First Aid Procedures
Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: When using do not eat, drink or smoke.
Skin Contact: After contact with skin, wash immediately with plenty of water.
Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use dry chemical, CO2 or appropriate foam.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Fire or excessive heat may produce hazardous decomposition products. Explosive when mixed with oxidising substances.
Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section 8 of this (M)SDS Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

Section 7 Handling and Storage

Handling: Avoid creating and inhaling dust.
Storage: Keep container tightly closed in a cool, well-ventilated place.
Storage Code: Green - general chemical storage

Safety Data Sheet

Section 8

Protection Information

Chemical Name	ACGIH		OSHA PEL	
	(TWA)	(STEL)	(TWA)	(STEL)
Sodium Citrate, Dihydrate	N/A	N/A	N/A	N/A

Control Parameters

Engineering Measures:

No exposure limits exist for the constituents of this product. General room ventilation might be required to maintain operator comfort under normal conditions of use.

Personal Protective Equipment (PPE):

Lab coat, apron, eye wash, safety shower.

Respiratory Protection:

No respiratory protection required under normal conditions of use.

Respirator Type(s):

None required where adequate ventilation is provided. If airborne concentrations are above the applicable exposure limits, use NIOSH/MSHA approved respiratory protection.

Eye Protection:

Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection:

Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves:

No information available

Section 9

Physical Data

Formula: HOC (COONa)(CH₂COONa)₂ 2H₂O

Molecular Weight: 294.10

Appearance: White Powder

Odor: None

Odor Threshold: No data available

pH: No data available

Melting Point: No data available

Boiling Point: No data available

Flash Point: No data available

Flammable Limits in Air: No data available

Vapor Pressure: No data available

Evaporation Rate (BuAc=1): No data available

Vapor Density (Air=1): No data available

Specific Gravity: 1.7

Solubility in Water: Soluble

Log Pow (calculated): No data available

Autoignition Temperature: No data available

Decomposition Temperature: No data available

Viscosity: No data available

Percent Volatile by Volume: No data available

Section 10

Reactivity Data

Reactivity:

Not generally reactive under normal conditions.

Chemical Stability:

Stable under normal conditions.

Conditions to Avoid:

None known.

Incompatible Materials:

Strong oxidizing agents

Hazardous Polymerization:

Will not occur

Section 11

Toxicity Data

Routes of Entry: Inhalation and ingestion.

Symptoms (Acute): Alkalosis

Delayed Effects: No data available

Acute Toxicity:

Chemical Name

Sodium Citrate, Dihydrate

CAS Number

6132-04-3

Oral LD50

No data available

Dermal LD50

No data available

Inhalation LC50

No data available

Carcinogenicity:

Chemical Name

Sodium Citrate, Dihydrate

CAS Number

6132-04-3

IARC

Not listed

NTP

Not listed

OSHA

Not listed

Chronic Effects:

Mutagenicity:

No evidence of a mutagenic effect.

Safety Data Sheet

Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: No data available
Chronic: No data available

Section 12

Ecological Data

Overview: This material is not expected to be harmful to the ecology.
Mobility: No data
Persistence: No data
Bioaccumulation: No data
Degradability: No data
Other Adverse Effects: No data

Chemical Name Sodium Citrate, Dihydrate	CAS Number 6132-04-3	Eco Toxicity Not available
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Section 13

Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): Not Determined

Section 14

Transport Information

Ground - DOT Proper Shipping Name: Not regulated for transport by US DOT.	Air - IATA Proper Shipping Name: Not regulated for air transport by IATA.
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Section 15

Regulatory Information

TSCA Status: A component (or components) of this product is not listed on the TSCA Inventory of Existing Chemical Substances. Product is for research and development use only.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Sodium Citrate, Dihydrate	6132-04-3	No	No	No	No	No

California Prop 65: No California Proposition 65 ingredients

Section 16

Additional Information

Revised: 08/21/2018

Replaces: 06/15/2018

Printed: 08-25-2018

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health

Section 1 Chemical Product and Company Identification

Page 1 of 2



5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

Boreal Science
399 Vansickle Road
St. Catharines, Ontario
L2S 3T4 Canada
Tel: (800) 387-9393

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product SODIUM DICHROMATE

Synonyms Sodium Bichromate

Section 2 Hazards Identification

Signal word: DANGER

Pictograms: GHS03 / GHS05 / GHS06 / GHS08 / GHS09

Target organs: Kidneys, Heart, Respiratory system

**GHS Classification:**

Oxidizing solid (Category 2)

Acute toxicity, dermal (Category 4*)

Skin sensitizer (Category 1)

Respiratory sensitizer (Category 1)

Carcinogenicity (Category 1B)

STOT - RE (Category 1)

Aquatic toxicity, chronic (Category 1)

Acute toxicity, oral (Category 3*)

Skin corrosion (Category 1B)

Acute toxicity, inhalation (Category 2*)

Mutagenicity (Category 1B)

Reproductive (Category 1B)

Aquatic toxicity, acute (Category 1)

Precautionary statement:

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P220: Keep away from clothing/incompatible/combustible materials.

P221: Take any precaution to avoid mixing with combustibles and incompatible materials.

P260: Do not breathe dust.

P264: Wash hands thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P271: Use only outdoors or in a well-ventilated area.

P272: Contaminated work clothing should not be allowed out of the workplace.

P273: Avoid release to the environment.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P284: Wear respiratory protection.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P310: Immediately call a POISON CENTER or doctor.

P302+P352: IF ON SKIN: Wash with plenty of water and soap.

P312: Call a POISON CENTER or doctor if you feel unwell.

P362+P364: Take off contaminated clothing and wash it before reuse.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P310: Immediately call a POISON CENTER or doctor.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P370+P378: In case of fire: Use dry chemical, CO₂ or water spray to extinguish.

P391: Collect spillage.

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P405: Store locked up.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

GHS Label information: Hazard statement:

H272: May intensify fire; oxidizer.

H301: Toxic if swallowed.

H312: Harmful in contact with skin.

H314: Causes severe skin burns and eye damage.

H317: May cause an allergic skin reaction.

H330: Fatal if inhaled.

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H340: May cause genetic defects.

H350: May cause cancer.

H360FD: May damage fertility. May damage the unborn child.

H372*: Causes damage to organs through prolonged or repeated exposure.

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

Ca Prop 65: This chemical is known to the State of California to cause cancer or reproductive toxicity (Chromium, hexavalent compounds, cancer and developmental).

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Sodium dichromate, dihydrate	7789-12-0	100%	234-190-3

Section 4 First Aid Measures

INGESTION: TOXIC IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: FATAL IF INHALED. MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR BREATHING DIFFICULTIES IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES EYE DAMAGE. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: HARMFUL IN CONTACT WITH SKIN. CAUSES SEVERE SKIN BURNS. MAY CAUSE AN ALLERGIC SKIN REACTION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Extinguishing Media: Dry chemical, CO₂ or water spray.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 7 Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	As water soluble Cr(VI) inorganic compounds	TWA: 0.05 mg/m ³ (A1)*	TWA: 0.005 mg/m ³ *	TWA: 0.001 mg/m ³ *

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Solid. Red-orange crystals

Odor: No odor

Odor threshold: Data not available

pH: Data not available

Melting / Freezing point: Loses H₂O @ 82.6°C

Boiling point: Decomposes

Flash point: Data not available

Evaporation rate (= 1): Data not available

Flammability (solid/gas): Data not available

Explosion limits: Lower / Upper: Data not available

Vapor pressure (mm Hg): Data not available

Vapor density (Air = 1): Data not available

Relative density (Specific gravity): 2.348

Solubility(ies): 73 g/100 ml water @ 20°C

Partition coefficient: Data not available

Auto-ignition temperature: Data not available

Decomposition temperature: Data not available

Viscosity: Data not available

Molecular formula: Na₂Cr₂O₇·2H₂O

Molecular weight: 298.05

Section 10 Stability & Reactivity

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures and heat.

Incompatibilities with other materials: Strong alkalis, acids, combustible materials, and oxidizing materials.

Hazardous decomposition products: Chromic oxides, chromium oxides, sodium hydroxide or sodium oxide.

Section 11 Toxicological Information

Acute toxicity: Oral-rat LD50: 51.10 mg/kg ; Inhalation-rat LC50: 124.42 mg/cu m/4 hour (aerosol) ; Dermal-rabbit LD50: 1000 mg/kg

Skin corrosion/irritation: Skin-rabbit - Slight irritant.

Serious eye damage/irritation: Eyes-rabbit - Severe irritant.

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: Listed.

IARC classified: Group 1: Carcinogenic to humans.

OSHA: Listed as Chromium(VI) compound.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: May cause irritation of nasal septum and respiratory tract. Prolonged or repeated exposure may cause ulceration and perforation of the nasal septum. Symptoms may include burning sensation, sore throat, cough, wheezing, labored breathing.

Ingestion: Can cause severe tissue destruction. Kidney failure may follow and result in death. Symptoms include nausea, vomiting, abdominal pain, burning sensation, diarrhea, shock or collapse

Skin: Symptoms include redness, pain, and skin burns.

Eyes: Contact causes severe irritation and potential permanent damage to the eyes. Symptoms include redness, pain, blurred vision, and severe deep burns.

Signs and symptoms of exposure: Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: HX7680000

Section 12 Ecological Information

Toxicity to fish: LC50 - Pimephales promelas (fathead minnow) - 33,200 ug/L/96 hour

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life.

Section 13 Disposal Information

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Hazardous Materials (US DOT / CANADA TDG)

UN/NA number: UN3288

Shipping name: Toxic solid, inorganic, n.o.s., (Sodium dichromate)

Hazard class: 6.1

Packing group: III

Reportable Quantity: Yes

Marine pollutant: No

Exceptions: Limited quantity equal to or less than 1 L

2012 ERG Guide # 151

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL
Sodium dichromate	Listed	10 lbs. (4.54 kg)	Not listed	Listed	Not listed

Section 16 Other Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.



Safety Data Sheet

Sodium Fluoride, ACS

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Sodium Fluoride, ACS

Synonyms/Generic Names: Sodium Fluoride Powder, Reagent ACS; Sodium Fluoride Powder, USP, EP, BP; Sodium Hydrofluoride; Sodium Monofluoride

Product Number: 5035

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI. 53925

For More Information Call: 920-623-2140 (Monday-Friday 8:00-4:30)

In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

OSHA Hazards: Target Organ Effect, Highly toxic by ingestion, Irritant

Target Organs: Kidney, Heart, Bone, Nerves, Gastrointestinal tract, Teeth, Lungs

Signal Word: Danger

Pictograms:



GHS Classification:

Acute toxicity, Oral	Category 2
Skin irritation	Category 2
Eye irritation	Category 2A
Acute aquatic toxicity	Category 3

GHS Label Elements, including precautionary statements:

Hazard Statements:

H300	Fatal if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H402	Harmful to aquatic life.

Precautionary Statements:

P264	Wash hands thoroughly after handling.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Potential Health Effects

Eyes	Causes eye irritation.
Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Ingestion	May be fatal if swallowed.

NFPA Ratings

Health	2
Flammability	0
Reactivity	0
Specific hazard	Not Available

HMIS Ratings

Health	2
Fire	0
Reactivity	0
Personal	E

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Sodium Fluoride	100	7681-49-4	231-667-8	NaF	41.99 g/mol

4. FIRST-AID MEASURES

Eyes	In case of eye contact, rinse with plenty of water and seek medical attention.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention.
Ingestion	Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Product is not flammable. Use appropriate media for adjacent fire. Cool containers with water.
Special protective equipment and precautions for firefighters	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
Specific hazards arising from the chemical	Emits toxic fumes (hydrogen fluoride, sodium oxides) under fire conditions. (See also Stability and Reactivity section).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Pick up and arrange disposal without creating dust. Sweep up and place in suitable, closed containers for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of dusts.

Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area. Moisture sensitive. Keep away from incompatible materials (see section 10 for incompatibilities).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls:

Component	Exposure Limits	Basis	Entity
Sodium Fluoride	2.5 mg/m ³	TLV	ACGIH
	2.5 mg/m ³	PEL	OSHA
	2.5 mg/m ³	REL	NIOSH

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

Personal Protection

Eyes	Wear chemical safety glasses, or goggles, and face shield.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear nitrile or rubber gloves, apron or lab coat.
Other	Not Available

Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	White crystalline powder.
Odor	Odorless.
Odor threshold	Not Available
pH	Not Available
Melting point/freezing point	993°C (1819.4°F)
Initial boiling point and boiling range	1704°C (3099.2°F)
Flash point	Not Flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Explosive
Vapor pressure	1.9 hPa (1.4 mmHg)
Vapor density	Not Available
Density	2.78 (Water = 1)
Solubility (ies)	Soluble in cold water, hot water.
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Moisture.
Incompatible Materials	Strong acids.
Hazardous Decomposition Products	Hydrogen fluoride, sodium oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Skin	Not Available
Eyes	Not Available
Respiratory	Not Available
Ingestion	LD50 Oral - rat - 31 mg/kg LD50 Oral - mouse - 44 mg/kg LD50 Oral - rabbit - 200 mg/kg LD50 Oral - Domestic Animals - 100 mg/kg LD50 Oral - Bird (wild) - 110 mg/kg TDLo Oral - Human - 0.214 mg/kg TDLo Oral - Human - 3.57 mg/kg TDLo Oral - Human - male - 1,662 mg/kg TDLo Oral - Human - female - 7 mg/kg TDLo Oral - mouse - 0.0084 mg/kg TDLo Oral - mouse - 0.034 mg/kg LDLO Oral - Human - 71 mg/kg LDLO Oral - Human - 32 mg/kg LDLO Oral - Human - 0.07 mg/kg LDLO Oral - Human - female - 90 mg/kg LDLO Oral - Human - female - 360 mg/kg
Other	TDLo Intradermal - Human - 0.014 mg/kg TDLo Parenteral - rat - 9 mg/kg

	TDLo Parenteral - rat - 35 mg/kg LDLO Subcutaneous - rabbit - 100 mg/kg LDLO Subcutaneous - guinea pig - 100 mg/kg LDLO Intraperitoneal - dog - 50 mg/kg LDLO Subcutaneous - dog - 155 mg/kg LDLO Subcutaneous - cat - 14 mg/kg LD50 Intraperitoneal - rat - 22 mg/kg LD50 Intravenous - rat - 26 mg/kg LD50 Subcutaneous - rat - 175 mg/kg LD50 Intraperitoneal - mouse - 38 mg/kg LD50 Intravenous - mouse - 50.83 mg/kg LD50 Subcutaneous - mouse - 0.115 mg/kg LD50 Intravenous - Monkey - 26.6 mg/kg
--	---

Carcinogenicity

IARC	3 - Group 3: Not classifiable as to its carcinogenicity to humans (Sodium fluoride).
ACGIH	A4: Not classifiable as a human carcinogen (Sodium fluoride).
NTP	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs & Symptoms of Exposure

Skin	Irritation, redness, itchiness, burns on wet or moist skin.
Eyes	Irritation, redness, watering eyes, itchiness, burns.
Respiratory	Coughing, breathing difficulty and possibly nasal septum perforation.
Ingestion	Salivation, thirst, nausea, vomiting, hypermotility, diarrhea, and abdominal pain.

Chronic Toxicity	Not Available
Teratogenicity	Not Available
Mutagenicity	Not Available
Embryotoxicity	Not Available
Specific Target Organ Toxicity	Not Available
Reproductive Toxicity	Not Available
Respiratory/Skin Sensitization	Not Available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Vertebrate	mortality NOEC - <i>Cyprinodon variegatus</i> (sheepshead minnow) - 500 mg/l - 96 h LC50 - <i>Oncorhynchus mykiss</i> (rainbow trout) - 200 mg/l - 96 h
Aquatic Invertebrate	EC50 - <i>Daphnia magna</i> (Water flea) - 98 mg/l - 48 h
Terrestrial	Not Available

Persistence and Degradability	Not Available
Bioaccumulative Potential	<i>Salmo trutta</i> - 10 d Bioconcentration factor (BCF): 2.3
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Harmful to aquatic life.

13. DISPOSAL CONSIDERATIONS

Waste Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

US DOT	UN1690, Sodium fluoride, solid, 6.1, pg III
TDG	UN1690, SODIUM FLUORIDE, SOLID, 6.1, pg III
IMDG	UN1690, SODIUM FLUORIDE, SOLID, 6.1, pg III
Marine Pollutant	No
IATA/ICAO	UN1690, Sodium fluoride, solid, 6.1, pg III

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Sodium fluoride
SARA 312	Sodium fluoride
SARA 313	Not Listed
WHMIS Canada	CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). CLASS D-2B: Material causing other toxic effects (TOXIC).

16. OTHER INFORMATION

Revision	Date
Revision 1	08-17-2012

Disclaimer: Columbus Chemical Industries, Inc. ("Columbus") believes that the information herein is factual but is not intended to be all inclusive. The information relates only to the specific material designated and does not relate to its use in combination with other materials or its use as to any particular process. Because safety standards and regulations are subject to change and because Columbus has no continuing control over the material, those handling, storing or using the material should satisfy themselves that they have current information regarding the particular way the material is handled, stored or used and that the same is done in accordance with federal, state and local law. COLUMBUS MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION) WARRANTIES WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN OR WITH RESPECT TO FITNESS FOR ANY PARTICULAR USE.

Safety Data Sheet

Sodium Hydroxide

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Sodium Hydroxide
Recommended Use: Science education applications
Synonyms: Soda Lye, Caustic Soda, Sodium Hydrate
Distributor: Carolina Biological Supply Company, 2700 York Road, Burlington, NC 27215-3398
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

DANGER



Causes severe skin burns and eye damage. Harmful to aquatic life.

GHS Classification:

Skin Corrosion/Irritation Category 1, Serious Eye Damage/Eye Irritation Category 1, Hazardous to the aquatic environment - Acute Category 3

Acute Toxicity Oral Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Gas Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Dust/Mist Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity

Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Sodium Hydroxide	1310-73-2	100

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Eyes: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Skin Contact: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
Ingestion: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

Section 5 Firefighting Procedures

Extinguishing Media: Use dry chemical, CO₂ or appropriate foam.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Reacts with water or steam to produce toxic and corrosive fumes. Fire or excessive heat may produce hazardous decomposition products.
Hazardous Combustion Products: None Known

Section 6 Spill or Leak Procedures

Safety Data Sheet

Steps to Take in Case Material Is Released or Spilled:

Exposure to the spilled material may be severely irritating or toxic. Follow personal protective equipment recommendations found in Section 8 of this SDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits. Persons not wearing appropriate protective equipment should be excluded from area of spill until clean-up has been completed.

Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

Section 7 Handling and Storage

Handling: Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Storage: Store locked up. Keep container tightly closed in a cool, well-ventilated place.

Storage Code: White - Corrosive. Separate acids from bases; separate oxidizer acids from organic acids.

Section 8 Protection Information

<u>Chemical Name</u>	<u>ACGIH</u>	<u>OSHA PEL</u>
	<u>(TWA)</u>	<u>(TWA)</u>
Sodium Hydroxide	N/A	2 mg/m3 TWA
		<u>(STEL)</u>
		N/A

Control Parameters

Engineering Measures: Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.

Respiratory Protection: Respiratory protection may be required to avoid overexposure when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms.

Respirator Type(s): None required where adequate ventilation is provided. If airborne concentrations are above the applicable exposure limits, use NIOSH/MSHA approved respiratory protection.

Eye Protection: Wear chemical splash goggles when handling this product. Additionally, wear a face shield when the possibility of splashing of liquid exists. Have an eye wash station available.

Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: Natural latex, Nitrile, Nitrile - Extra Thick (8 mm), Neoprene

Section 9 Physical Data

Formula: NaOH	Vapor Pressure: 0 hPa at 20°C
Molecular Weight: 39.99	Evaporation Rate (BuAc=1): Non-volatile
Appearance: White Solid	Vapor Density (Air=1): No data available
Odor: No data available	Specific Gravity: 2.130 @ 25°C
Odor Threshold: No data available	Solubility in Water: Soluble
pH: 14 (5% solution)	Log Pow (calculated): No data available
Melting Point: 318 C	Autoignition Temperature: No data available
Boiling Point: 1390 C	Decomposition Temperature: No data available
Flash Point: No data available	Viscosity: No data available
Flammable Limits in Air: No data available	Percent Volatile by Volume: No data available

Section 10 Reactivity Data

Reactivity: Mildly reactive - See below

Chemical Stability: Stable under normal conditions.

Conditions to Avoid: Exposure to moisture Reaction with water is exothermic.

Incompatible Materials: Strong reducing agents, Acids, Hydroquinone, Organic halides, Phosphorus, Alcohols, Metals, Aldehydes

Hazardous Decomposition Products: None Known

Safety Data Sheet

Hazardous Polymerization: Will not occur

Section 11 Toxicity Data

Routes of Entry: Ingestion, skin and eye contact.
Symptoms (Acute): No data available
Delayed Effects: No data available

Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Sodium Hydroxide	1310-73-2	Not applicable	Dermal LD50 Rabbit 1350 mg/kg	Not applicable

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Sodium Hydroxide	1310-73-2	Not listed	Not listed	Not listed

Chronic Effects:

Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: No data available
Chronic: No data available

Section 12 Ecological Data

Overview: Moderate ecological hazard. This product may be dangerous to plants and/or wildlife.
Mobility: This material is expected to have very high mobility in soil. It does not absorb to most soil types.
Persistence: Dissolved into water
Bioaccumulation: Bioconcentration is not expected to occur.
Degradability: Does not biodegrade readily.
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
Sodium Hydroxide	1310-73-2	Aquatic LC50 (96h) Rainbow Trout 45.4 MG/L

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): If discarded, this product is considered a RCRA corrosive waste, D002.

Section 14 Transport Information

Ground - DOT Proper Shipping Name:	Air - IATA Proper Shipping Name:
UN1823 Sodium Hydroxide, Solid Class 8 P.G. II	UN1823 Sodium Hydroxide, Solid Class 8 P.G. II

Section 15 Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Sodium Hydroxide	1310-73-2	No	1000 lb RQ	1000lb (454kg) final RQ	No	No

Safety Data Sheet

Section 16

Additional Information

Revised: 04/01/2013

Replaces: 01/23/2013

Printed: 06-21-2013

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 734.10

Revision Date: March 25, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Sodium Hydroxide Solution, 6.1M - 19M

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin corrosion or irritation (Category 1). Causes severe skin burns and eye damage (H314). Do not breathe mist, vapors or spray (P260).

Hazard class: Corrosive to metals (Category 1). May be corrosive to metals (H290).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Sodium hydroxide	1310-73-2	NaOH	39.997	25-50%
Water	7732-18-5	H ₂ O	18.00	50-75%

SECTION 4 — FIRST AID MEASURES

Immediately call a POISON CENTER or physician (P310).

If inhaled: Remove victim to fresh air in a position comfortable for breathing (P304+P340). **If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If on skin (or hair):** Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353). Wash contaminated clothing before reuse (P363).

If swallowed: Rinse mouth. Do NOT induce vomiting (P301+P330+P331).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Contain spill with sand or absorbent material; deposit in sealed bag or container. Absorb spills to prevent material damage (P390). See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store with hydroxides, oxides, silicates and carbonates. Keep container tightly closed. Keep only in original container (P234).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Exposure guidelines: (as sodium hydroxide) PEL 2 mg/m³ (OSHA); Ceiling 2 mg/m³ (ACGIH); IDLH 10 mg/m³

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Colorless liquid. Odorless.

Density: 1.53
pH: basic

SECTION 10 — STABILITY AND REACTIVITY

Shelf life: Good, if kept tightly closed.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Eye and skin burns. Mucous membrane irritant.
pneumonitis.
Chronic effects: N.A.
Target organs: Eyes, skin, respiratory system.

ORL-RBT LD₀₁: 500 mg/kg (as sodium hydroxide)
IHL-RAT LC₅₀: N.A.
SKN-RBT LD₅₀: 50 mg/24H (as sodium hydroxide)

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #10 is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Sodium hydroxide solution. Hazard class: B, Corrosive. UN number: UN1824.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 25, 2014

Safety Data Sheet

Sodium Hydroxide, 0.1M

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Sodium Hydroxide, 0.1M
Recommended Use: Science education applications
Synonyms: Soda Lye, Sodium Hydroxide 0.1N, Caustic Soda, Lye
Distributor: Carolina Biological Supply Company
2700 York Road, Burlington, NC 27215
1-800-227-1150
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

DANGER



Causes severe skin burns and eye damage. Causes serious eye damage. Harmful to aquatic life.

GHS Classification:

Skin Corrosion/Irritation Category 1A, Serious Eye Damage/Eye Irritation Category 1, Hazardous to the aquatic environment - Acute Category 3

Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Water	7732-18-5	99.6
Sodium Hydroxide	1310-73-2	0.4

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Eyes: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Skin Contact: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
Ingestion: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

Section 5 Firefighting Procedures

Extinguishing Media: Use media suitable to extinguish surrounding fire.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Fire or excessive heat may produce hazardous decomposition products.
Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

Section 6 Spill or Leak Procedures

Safety Data Sheet

Steps to Take in Case Material Is Released or Spilled:

Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill.

Environmental Precautions:

Avoid breathing material. Avoid contact with skin and eyes. Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

Section 7

Handling and Storage

Handling: Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Avoid contact with skin and eyes.

Storage: Store locked up. Keep container tightly closed in a cool, well-ventilated place.

Storage Code: Green - general chemical storage

Section 8

Protection Information

<u>Chemical Name</u>	<u>ACGIH</u>	<u>OSHA PEL</u>
	(TWA)	(TWA)
	(STEL)	(STEL)
Sodium Hydroxide	N/A	2 mg/m3 TWA
	N/A	N/A

Control Parameters

Engineering Measures:

Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

Personal Protective Equipment (PPE):

Lab coat, apron, eye wash, safety shower.

Respiratory Protection:

No respiratory protection required under normal conditions of use.

Respirator Type(s):

None required where adequate ventilation is provided. If airborne concentrations are above the applicable exposure limits, use NIOSH/MSHA approved respiratory protection.

Eye Protection:

Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection:

Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves:

Nitrile, Neoprene, Natural latex,

Section 9

Physical Data

Formula: NaOH (aq)
Molecular Weight: 40.00 (Sodium Hydroxide)
Appearance: Colorless Liquid
Odor: None
Odor Threshold: No data available
pH: 13
Melting Point: No data available
Boiling Point: No data available
Flash Point: No data available
Flammable Limits in Air: No data available

Vapor Pressure: No data available
Evaporation Rate (BuAc=1): No data available
Vapor Density (Air=1): No data available
Specific Gravity: > 1.0
Solubility in Water: Soluble
Log Pow (calculated): No data available
Autoignition Temperature: No data available
Decomposition Temperature: No data available
Viscosity: No data available
Percent Volatile by Volume: No data available

Section 10

Reactivity Data

Reactivity: Not generally reactive under normal conditions.
Chemical Stability: Stable under normal conditions.
Conditions to Avoid: None known.
Incompatible Materials: Water-reactive materials
Hazardous Polymerization: Will not occur

Section 11

Toxicity Data

Safety Data Sheet

Routes of Entry Ingestion, Skin contact.
Symptoms (Acute): Gastrointestinal,
Delayed Effects: No data available

Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Water	7732-18-5	Oral LD50 Rat 90000 mg/kg		

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Sodium Hydroxide	1310-73-2	Not listed	Not listed	Not listed

Chronic Effects:

Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: No information available
Chronic: No information available

Section 12

Ecological Data

Overview: This material is not expected to be harmful to the ecology.
Mobility: This material is expected to have very high mobility in soil. It does not absorb to most soil types.
Persistence: Dissolved into water
Bioaccumulation: Bioconcentration is not expected to occur.
Degradability: No data
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
Water	7732-18-5	No data available
Sodium Hydroxide	1310-73-2	Aquatic LC50 (96h) Rainbow Trout 45.4 MG/L

Section 13

Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): If discarded, this product is considered a RCRA corrosive waste, D002.

Section 14

Transport Information

Ground - DOT Proper Shipping Name: Not regulated for transport by US DOT.
Air - IATA Proper Shipping Name: Not regulated for air transport by IATA.

Section 15

Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Sodium Hydroxide	1310-73-2	No	1000 lb RQ	1000lb (454kg) final RQ	No	No

California Prop 65: No California Proposition 65 ingredients

Section 16

Additional Information

Safety Data Sheet

Revised: 08/21/2018

Replaces: 06/15/2018

Printed: 08-25-2018

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health

Section 1 Chemical Product and Company Identification

Page E1 of E2

Innovating Science[®] by Aldon Corporation
 "cutting edge science for the classroom"

221 Rochester Street
 Avon, NY 14414-9409
 (585) 226-6177

CHEMTREC 24 Hour Emergency USA
Phone Number (800) 424-9300
 For laboratory and industrial use only.
 Not for drug, food or household use.

Product SODIUM HYDROXIDE, 1 MOLAR (1 NORMAL) SOLUTION
Synonyms Sodium Hydroxide, Water Solution, Sodium Hydroxide Solution

Section 2 Hazards Identification

Signal word: DANGER
Pictograms: GHS05
Target organs: Respiratory tract, gastrointestinal tract, eyes, skin.



GHS Classification:
 Skin, Corr. (Category 1B)
 Serious Eye Damage/ Eye Irritation (Category 1)

GHS Label information: Hazard statement:
 H314: Causes severe skin burns and eye damage.

Precautionary statement:

P260: Do not breathe mist/vapours/spray.
 P264: Wash hands thoroughly after handling.
 P280: Wear protective gloves/protective clothing/eye protection/face protection.
 P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P363: Wash contaminated clothing before reuse.
 P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P310: Immediately call a POISON CENTER or doctor.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P405: Store locked up.
 P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known
 Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Water	7732-18-5	96%	231-791-2
Sodium hydroxide	1310-73-2	4%	215-185-5

Section 4 First Aid Measures

INGESTION: MAY BE FATAL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SEVERE DAMAGE. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: CAUSES SEVERE BURNS. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Dry chemical, water spray, alcohol foam. Can react with carbon dioxide to form sodium carbonate.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume. Contact with metals can generate hydrogen gas.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Safety Data Sheet

Sodium Hydroxide, 3M

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Sodium Hydroxide, 3M
Recommended Use: Science education applications
Distributor: Carolina Biological Supply Company
2700 York Road, Burlington, NC 27215
1-800-227-1150
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

Harmful to aquatic life.

GHS Classification:
Hazardous to the aquatic environment - Acute Category 3

Acute Toxicity Oral Contains 12 % of the mixture consists of ingredient(s) of unknown toxicity

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%
Water	7732-18-5	88
Sodium Hydroxide	1310-73-2	12

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Ingestion: If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Fire or excessive heat may produce hazardous decomposition products.
Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: Exposure to the spilled material may be severely irritating or toxic. Follow personal protective equipment recommendations found in Section 8 of this SDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including: the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits. Persons not wearing appropriate protective equipment should be excluded from area of spill until clean-up has been completed.
Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

Safety Data Sheet

Section 7 Handling and Storage

Handling: Avoid release to the environment.
Storage: Keep container tightly closed in a cool, well-ventilated place.
Storage Code: White - Corrosive. Separate acids from bases; separate oxidizer acids from organic acids.

Section 8 Protection Information

<u>Chemical Name</u>	<u>(TWA)</u>	<u>ACGIH</u>	<u>(STEL)</u>	<u>(TWA)</u>	<u>OSHA PEL</u>	<u>(STEL)</u>
Sodium Hydroxide	N/A		N/A	2 mg/m3 TWA		N/A

Control Parameters

Engineering Measures: No exposure limits exist for the constituents of this product. General room ventilation might be required to maintain operator comfort under normal conditions of use.

Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.

Respiratory Protection: No respiratory protection required under normal conditions of use.

Respirator Type(s): None required where adequate ventilation is provided. If airborne concentrations are above the applicable exposure limits, use NIOSH/MSHA approved respiratory protection.

Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: Natural latex, Nitrile, Nitrile - Extra Thick (8 mm), Neoprene

Section 9 Physical Data

Formula: See Section 3	Vapor Pressure: No data available
Molecular Weight:	Evaporation Rate (BuAc=1): No data available
Appearance: White	Vapor Density (Air=1): No data available
Odor: No data available	Specific Gravity: No data available
Odor Threshold: No data available	Solubility in Water: Soluble
pH: No data available	Log Pow (calculated): No data available
Melting Point: 318 C	Autoignition Temperature: No data available
Boiling Point: 100 C	Decomposition Temperature: No data available
Flash Point: No data available	Viscosity: No data available
Flammable Limits in Air: No data available	Percent Volatile by Volume: No data available

Section 10 Reactivity Data

Reactivity: No data available

Chemical Stability: Stable under normal conditions.

Conditions to Avoid: Exposure to moisture

Incompatible Materials: Water-reactive materials, Strong reducing agents, Acids, Hydroquinone, Organic halides, Phosphorus, Alcohols, Metals, Aldehydes

Hazardous Polymerization: Will not occur

Section 11 Toxicity Data

Routes of Entry: Ingestion, skin and eye contact.

Symptoms (Acute): No data available

Delayed Effects: No data available

Acute Toxicity:				
Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Water	7732-18-5	Oral LD50 Rat 90000 mg/kg		

Safety Data Sheet

Carcinogenicity:
Chemical Name: Sodium Hydroxide
CAS Number: 1310-73-2
IARC: Not listed
NTP: Not listed
OSHA: Not listed

Chronic Effects:
Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: No data available
Chronic: No data available

Section 12 Ecological Data

Overview: This material is not expected to be harmful to the ecology.
Mobility: No data
Persistence: Dissolved into water
Bioaccumulation: No data
Degradability: No data
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
Water	7732-18-5	No data available
Sodium Hydroxide	1310-73-2	Aquatic LC50 (96h) Rainbow Trout 45.4 MG/L

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): Not Determined

Section 14 Transport Information

Ground - DOT Proper Shipping Name: Not regulated for transport by US DOT.
Air - IATA Proper Shipping Name: Not regulated for air transport by IATA.

Section 15 Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Sodium Hydroxide	1310-73-2	No	1000 lb RQ	1000lb (454kg) final RQ	No	No

Section 16 Additional Information

Revised: 09/03/2014

Replaces: 09/03/2014

Printed: 09-11-2014

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

Safety Data Sheet

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health

Section 1 Chemical Product and Company Information

5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product SODIUM HYDROXIDE, ANHYDROUS

Synonyms Caustic Soda

Section 2 Hazards Identification

Signal word: DANGER

Pictograms: GHS05

Target organs: Respiratory tract, gastrointestinal tract, eyes, skin.



GHS Classification:

Skin. Corr. (Category 1A)

GHS Label information: Hazard statement:

H314: Causes severe skin burns and eye damage.

Precautionary statement:

P260: Do not breathe dust.

P264: Wash hands thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated

clothing. Rinse skin with water/shower.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P310: Immediately call a POISON CENTER or doctor.

P363: Wash contaminated clothing before reuse.

P405: Store locked up.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3 Composition / Information on ingredients

Chemical Name	CAS #	%	EINECS
Sodium hydroxide	1310-73-2	96-100%	215-185-5

Section 4 First Aid Measures

INGESTION: MAY BE FATAL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SEVERE DAMAGE. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: CAUSES SEVERE BURNS. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Flood with water, taking care not to splash or scatter. Avoid carbon dioxide as it reacts exothermically with this material.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: Contact with metals can generate hydrogen gas. Contact with water produces intense heat and highly irritating and corrosive mist. Hot or molten material will react violently with water liberating heat and causing splashing. Contact with water may generate sufficient heat to ignite combustible materials.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 7 Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Sodium hydroxide	STEL: C 2 mg/m ³	TWA: 2 mg/m ³	STEL: C 2 mg/m ³

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Solid white beads or pellets.	Evaporation rate (= 1): Not applicable.	Partition coefficient: (n-octanol / water): Data not available.
Odor: No odor.	Flammability (solid/gas): Data not available.	Auto-ignition temperature: Not applicable.
Odor threshold: Data not available.	Explosion limits: Lower / Upper: Not applicable.	Decomposition temperature: Data not available.
pH: 13.0 - 14.0	Vapor pressure (mm Hg): 1 mm Hg @ 739°C	Viscosity: Not applicable.
Melting / Freezing point: 318°C (604°F)	Vapor density (Air = 1): Not applicable.	Molecular formula: NaOH
Boiling point: 1390°C (2534°F)	Relative density (Specific gravity): 2.13 @ 25°C (77°F)	Molecular weight: 40.00
Flash point: Not applicable.	Solubility(ies): 29.6 @ 0°C (32°F) in water	

Section 10 Stability & Reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Deliquescent material. Absorbs moisture from air. Can react with carbon dioxide to form sodium carbonate.

Incompatible materials: Metals, acids, organic compounds, organic nitro compounds.

Hazardous decomposition products: Sodium oxide. Reacts with metals to form flammable and explosive hydrogen gas.

Section 11 Toxicological Information

Acute toxicity: Data not available

Skin corrosion/irritation: Skin - rabbit - Causes severe burns. - 24 h

Serious eye damage/irritation: Eyes - rabbit - Severe eye irritation - 24 h

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

Skin: May be harmful if absorbed through skin. Causes skin burns.

Eyes: Causes eye burns. Causes severe eye burns.

Signs and symptoms of exposure: Spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, cough, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

Additional information: RTECS #: WB4900000

Section 12 Ecological Information

Toxicity to fish: LC50 - Gambusia affinis (Mosquito fish) - 125 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates: Immobilization EC50 - Daphnia - 40.38 mg/l - 48 h

Toxicity to algae: No data available

Persistence and degradability: No data available **Bioaccumulative potential:** No data available

Mobility in soil: No data available **PBT and vPvB assessment:** No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information


UN/NA number: UN1823 **Shipping name:** Sodium hydroxide, solid

Hazard class: 8 **Packing group:** II **Reportable Quantity:** 1,000 lbs (454 kg) **Marine pollutant:** No

Exceptions: Limited quantity equal to or less than 1 Kg **2012 ERG Guide #** 154

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERCLA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Sodium hydroxide	Listed	1,000 lbs (454 kg)	D002	Listed	Not listed	 E

Section 16 Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 736.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Sodium Hypochlorite Solution

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin and eye damage, corrosion or irritation (Category 1B). Causes severe skin burns and eye damage (H314).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Sodium hypochlorite	7681-52-9	NaOCl	74.44	5-12.5%
Water	7732-18-5	H ₂ O	18.00	87.5-95%

Synonym: Bleach solution

SECTION 4 — FIRST AID MEASURES

Get medical advice or attention (P313). **If inhaled:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. (P304+P340). **If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

If on skin: Wash with plenty of soap and water (P302+P352). **If skin irritation occurs:** Get medical advice or attention (P332+P313). Take off contaminated clothing and wash before reuse (P362).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.

Strong oxidizer. Fire risk in contact with organic materials.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Contain spill with sand or absorbent material; deposit in sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #6. Store with chlorates, bromates, iodates, chlorites, perchloric acid, and peroxides.

Keep container tightly closed.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Colorless, lightly cloudy liquid. Bleach odor.

pH: basic

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with excessive heat, reducers, strong mineral acids.

Shelf life: Poor.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Skin, eye and respiratory tract irritation and corrosion, nausea, vomiting, somnolence.

ORL-MUS LD₅₀: 5800 mg/kg

Chronic effects: N.A.

IHL-RAT LC₅₀: N.A.

Target organs: Skin, eyes, and respiratory tract.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #26b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014

Safety Data Sheet

Sodium Iodide

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Sodium Iodide
Recommended Use: Science education applications
Synonyms: Sodium Iodine
Distributor: Carolina Biological Supply Company, 2700 York Road, Burlington, NC 27215-3398
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

DANGER



Causes skin irritation. Causes serious eye irritation. May damage fertility or the unborn child. Very toxic to aquatic life.

GHS Classification:

Reproductive Toxicity Category 1A, Hazardous to the aquatic environment - Acute Category 1, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2A

Other Safety Precautions: IF exposed or concerned: Get medical advice/attention.

Acute Toxicity Dermal Contains 100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Gas Contains 100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Vapor Contains 100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Dust/Mist Contains 100 % of the mixture consists of ingredient(s) of unknown toxicity

Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Sodium Iodide	7681-82-5	100

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin Contact: IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Ingestion: If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use media suitable to extinguish surrounding fire.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Fire or excessive heat may produce hazardous decomposition products.
Hazardous Combustion Products: Iodine (gas)

Section 6 Spill or Leak Procedures

Safety Data Sheet

Steps to Take in Case Material Is Released or Spilled:

Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill.

Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Collect spillage.

Section 7 Handling and Storage

Handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Use personal protective equipment as required.

Storage: Store locked up. Keep container tightly closed in a cool, well-ventilated place. Store away from light. Material is photodegradable.

Storage Code: Green - general chemical storage

Section 8 Protection Information

Chemical Name	ACGIH		OSHA PEL	
	(TWA)	(STEL)	(TWA)	(STEL)
Sodium Iodide	0.01 ppm TWA (inhalable fraction and vapor)	N/A	N/A	N/A

Control Parameters

Engineering Measures:

Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

Personal Protective Equipment (PPE):

Lab coat, apron, eye wash, safety shower.

Respiratory Protection:

Respiratory protection may be required to avoid overexposure when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms. None required where adequate ventilation is provided. If airborne concentrations are above the applicable exposure limits, use NIOSH/MSHA approved respiratory protection.

Respirator Type(s):

Wear chemical splash goggles when handling this product. Have an eye wash station available.

Eye Protection:

Skin Protection:

Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves:

No information available

Section 9 Physical Data

Formula: NaI
Molecular Weight: 149.89
Appearance: White Crystalline Solid
Odor: None
Odor Threshold: No data available
pH: No data available
Melting Point: 651 C
Boiling Point: 1304 C
Flash Point: No data available
Flammable Limits in Air: No data available

Vapor Pressure: 1 mmHg at 767 °C
Evaporation Rate (BuAc=1): No data available
Vapor Density (Air=1): No data available
Specific Gravity: 3.67
Solubility in Water: Soluble
Log Pow (calculated): No data available
Autoignition Temperature: No data available
Decomposition Temperature: No data available
Viscosity: No data available
Percent Volatile by Volume: No data available

Section 10 Reactivity Data

Reactivity: Not generally reactive under normal conditions.
Chemical Stability: Stable under normal conditions.
Conditions to Avoid: Exposure to light.
Incompatible Materials: Strong oxidizing agents, Strong acids
Hazardous Decomposition Products: Iodine (gas)

Safety Data Sheet

Hazardous Polymerization: Will not occur

Section 11 Toxicity Data

Routes of Entry: Inhalation and ingestion.
Symptoms (Acute): Hyperthyroidism
Delayed Effects: Iodism

Acute Toxicity:	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Chemical Name Sodium Iodide	7681-82-5	ORAL LD50 Rat 4340 mg/kg	Not applicable	Not applicable

Carcinogenicity:	CAS Number	IARC	NTP	OSHA
Chemical Name No data available	7681-82-5	Not listed	Not listed	Not listed

Chronic Effects:
Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: Evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: Evidence of negative reproductive effects.
Target Organ Effects:
Acute: No data available
Chronic: Thyroid

Section 12 Ecological Data

Overview: Severe ecological hazard. This product may be toxic to plants and/or wildlife.
Mobility: This material is expected to have high mobility in soil. It absorbs weakly to most soil types.
Persistence: Dissolved into water
Bioaccumulation: No data
Degradability: No data
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
Sodium Iodide	7681-82-5	Aquatic LC50 (96h) Rainbow Trout 860 MG/L Aquatic EC50 (48h) Daphnia 0.17 MG/L

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): Not Determined

Section 14 Transport Information

Ground - DOT Proper Shipping Name: Not regulated for transport by US DOT.
Air - IATA Proper Shipping Name: Not regulated for air transport by IATA.

Section 15 Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
No data available	7681-82-5	No	No	No	No	No

Safety Data Sheet

Section 16

Additional Information

Revised: 03/25/2013

Replaces: None

Printed: 06-21-2013

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health

Section 1 Chemical Product and Company Information


5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product SODIUM IODIDE (ANHYDROUS)

Synonyms Sodium Monoiodide

Section 2 Hazard Identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: WARNING

Pictograms: GHS07

Target organs: None known



GHS Classification:

Acute toxicity, inhalation (Category 5)

Skin irritation (Category 2)

Eye irritation (Category 2B)

GHS Label information: Hazard statement:

H303: May be harmful if swallowed.

H315: Causes skin irritation.

H320: Causes eye irritation.

Precautionary statement:

P264: Wash hands thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352: IF ON SKIN: Wash with plenty of water and soap.

P332+P313: If skin irritation occurs: Get medical attention.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical attention.

P312: Call a POISON CENTER or doctor if you feel unwell.

P362+P364: Take off contaminated clothing and wash it before reuse.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Sodium iodide	7681-82-5	100%	231-679-3

Section 4 First Aid Measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 7 Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Turns brown on exposure to air.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Particles not otherwise classified	Not established	TWA: 15 mg/m ³ total dust	Not established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Solid, white powder.	Evaporation rate (= 1): Not applicable	Partition coefficient: Data not available
Odor: No odor.	Flammability (solid/gas): Data not available.	Auto-ignition temperature: Not applicable
Odor threshold: Data not available.	Explosion limits: Lower / Upper: Not applicable	Decomposition temperature: Data not available.
pH: 8 - 9.5	Vapor pressure (mm Hg): 1 mm @ 767°C	Viscosity: Data not available.
Melting / Freezing point: 653°C (1207°F)	Vapor density (Air = 1): Data not available	Molecular formula: NaI
Boiling point: 1304°C (2379°F)	Relative density (Specific gravity): 3.667 @ 22°C	Molecular weight: 149.889
Flash point: Non-flammable	Solubility(ies): 1 g/0.5 ml water	

Section 10 Stability & Reactivity

Chemical stability: Stable
Hazardous polymerization: Will not occur.
Conditions to avoid: Excessive temperatures. Protect from light.
Incompatible materials: Acids, strong oxidizers, metallic salts, chloral hydrate, perchloric acid, bromine trifluoride.
Hazardous decomposition products: Iodine, sodium oxide. In presence of acids can liberate hydrogen iodide. In presence of oxidizers can liberate iodine.

Section 11 Toxicological Information

Acute toxicity: Data not available
Skin corrosion/irritation: Data not available
Serious eye damage/irritation: Data not available
Respiratory or skin sensitization: Data not available
Germ cell mutagenicity: Data not available
Carcinogenicity: Data not available
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive toxicity: Data not available
STOT-single exposure: Data not available
STOT-repeated exposure: Data not available
Aspiration hazard: Data not available
Potential health effects:
 Inhalation: Inhalation may cause cough, sore throat, headache.
 Ingestion: Ingestion causes diarrhea, nausea, vomiting.
 Skin: Causes redness and irritation.
 Eyes: Causes redness and irritation.
Signs and symptoms of exposure: Ingestion may cause effects on the thyroid. May cause systemic sensitization with symptoms that may include airway obstruction and various skin reactions or even anaphylactic shock. Exercise appropriate procedures to minimize potential hazards.
Additional information: RTECS #: WB6475000

Section 12 Ecological Information

Toxicity to fish: Data not available
Toxicity to daphnia and other aquatic invertebrates: Data not available
Toxicity to algae: Data not available
Persistence and degradability: No data available
Bioaccumulative potential: No data available
Mobility in soil: No data available
PBT and vPvB assessment: No data available
Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations


These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Regulatory Information

UN/NA number: Not applicable
Hazard class: Not applicable
Exceptions: Not applicable
Shipping name: Not Regulated
Packing group: Not applicable
2012 ERG Guide #: Not applicable
Reportable Quantity: No
Marine pollutant: No

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the inventory list.

Component	TSCA	CERCLA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Sodium iodide	Listed	Not listed	Not listed	Listed	Not listed	 D2A

Section 16 Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Revision Date: March 14, 2013

Supersedes: January 12, 2012

Section 1 Chemical Product and Company Identification

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St. Catharines, Ontario
L2S 3T4, Canada
Tel: (800) 387-9393

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product SODIUM LAURYL SULFATE
Synonyms Sodium Dodecyl Sulfate / SDS

Section 2 Hazards Identification

Signal word: DANGER
Pictograms: GHS02 / GHS05 / GHS06
Target organs: Respiratory system, Eyes, Skin



GHS Classification:
Flammable solid (Category 2)
Acute toxicity, oral (Category 4)
Acute toxicity, dermal (Category 3)
Skin irritation (Category 2)
Serious eye damage (Category 1)
STOT-SE (Category 3)
Aquatic toxicity, acute (Category 2)

GHS Label information: Hazard statement:
H228: Flammable solid.
H302: Harmful if swallowed.
H311: Toxic in contact with skin.
H315: Causes skin irritation.
H318: Causes serious eye damage.
H335: May cause respiratory irritation.
H401: Toxic to aquatic life.

Precautionary statement:

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/lighting equipment.
P261: Avoid breathing dust.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
P330: Rinse mouth.
P302+P352: IF ON SKIN: Wash with plenty of water and soap.
P312: Call a POISON CENTER or doctor if you feel unwell.
P361+P364: Take off immediately all contaminated clothing and wash it before reuse.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312: Call a POISON CENTER or doctor if you feel unwell.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER or doctor.
P370+P378: In case of fire: Use dry chemical, CO₂, sand, earth, water spray or regular foam to extinguish.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.
P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 3 Composition/Information on Ingredients

Chemical Name	CAS #	%	EINECS
Sodium lauryl sulfate	151-21-3	100%	205-788-1

INGESTION: HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE DAMAGE. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: TOXIC IN CONTACT WITH SKIN. CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Suitable Extinguishing Media: Dry chemical, CO₂, sand, earth, water spray or regular foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Combustible material. May be ignited by friction, heat, sparks or flame.

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 1 Chemical Product and Company Information

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5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product SODIUM NITRATE

Synonyms Nitrate of Soda / Chile Saltpeter

Section 2 Hazards Identification

Signal word: WARNING

Pictograms: GHS03 / GHS07

Target organs: Red blood cells



GHS Classification:

Oxidizing solid (Category 3)

Acute toxicity, oral (Category 4)

Eye irritation (Category 2A)

GHS Label information: Hazard statement:

H272: May intensify fire; oxidizer.

H302: Harmful if swallowed.

H319: Causes serious eye irritation.

Precautionary statement:

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P220: Keep away from clothing/incompatible/combustible materials.

P221: Take any precaution to avoid mixing with combustibles/acids/oxidizers.

P264: Wash hands thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301+P330+P312: IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor if you feel unwell.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical attention.

P370+P378: In case of fire: Use **WATER ONLY** to extinguish.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Sodium nitrate	7631-99-4	100%	231-554-3

Section 4 First Aid Measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: USE WATER ONLY. Do not use dry chemical or foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Although not flammable, substance is a strong oxidizer which releases oxygen on heating, increasing the burning rate of any material with a flare-burning effect. It may cause re-ignition after a fire is extinguished.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 7 Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from combustible or reducing agents.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Sodium nitrate	Not established	Not established	Not established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Solid, colorless crystals.

Odor: No odor.

Odor threshold: Data not available.

pH: Data not available.

Melting / Freezing point: 307°C (584°F)

Boiling point: Data not available

Flash point: Non-flammable

Evaporation rate (= 1): Data not available

Flammability (solid/gas): Data not available.

Explosion limits: Lower / Upper: Data not available

Vapor pressure (mm Hg): Negligible

Vapor density (Air = 1): Data not available

Relative density (Specific gravity): 2.261 @ 25°C

Solubility(ies): 73 g/100 mL water

Partition coefficient: Data not available

Auto-ignition temperature: Data not available

Decomposition temperature: 380°C (716°F)

Viscosity: Data not available.

Molecular formula: NaNO₃

Molecular weight: 84.99

Section 10 Stability & Reactivity

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures, heat, sparks, open flame and other sources of ignition. Keep away from combustible or reducing agents.

Incompatible materials: Combustible materials, reducing agents, strong acids and flammable materials.

Hazardous decomposition products: Nitrogen oxides.

Section 11 Toxicological Information

Acute toxicity: Oral-rat LD50: 1267 mg/kg

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Cough and sore throat.

Ingestion: Abdominal pain, cyanosis (blue lips, fingernails and skin), convulsions, diarrhea, dizziness, headache, labored breathing, confusion, nausea, unconsciousness.

Skin: Redness.

Eyes: Redness and pain.

Signs and symptoms of exposure: Ingestion could cause effects on the blood. This may result in formation of methaemoglobin. The effect may be delayed. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: WC560000

Section 12 Ecological Information

Toxicity to fish: Lepomis macrochirus (fish, fresh water), LC50 = 12,800 mg/L/24 hours

Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacea), LC50 = 6,000 mg/L/24 hours

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information (US DOT / CANADA TDG)

UN/NA number: UN1498

Shipping name: Sodium nitrate

Hazard class: 5.1

Packing group: III

Reportable Quantity: No


Marine pollutant: No

Exceptions: Limited quantity equal to or less than 5 Kg

2012 ERG Guide # 140

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Sodium nitrate	Listed	Not listed	D001	Listed	Not listed	 C; D2B

Section 16 Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Section 1 Chemical Product and Company Information

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**Aldon
Corporation**

221 Rochester Street
Avon, NY 14414
(585) 226-6177

**CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300**
For laboratory use only.
Not for drug, food or household use.

Product	SODIUM PHOSPHATE, MONOBASIC, MONOHYDRATE
Synonyms	Sodium Biphosphate, Monohydrate / Sodium Dihydrogen Phosphate, Monohydrate / Sodium Acid Phosphate, Monohydrate

Section 2 Hazards Identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: Not classified
Pictograms: Not classified
Target organs: None known

GHS Classification: Not classified
GHS Label information: Hazard statement: Not classified
Precautionary statement: Not classified

Supplemental information:

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Sodium phosphate, monobasic, monohydrate	10049-21-5	100%	231-449-2 (anhydrous)

Section 4 First Aid Measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 1 Chemical Product and Company Information

Page E1 of E2



5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

**CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300**
For laboratory use only.
Not for drug, food or household use.

Product	SODIUM POLYACRYLATE
----------------	----------------------------

Synonyms	Acrylic acid polymer
-----------------	----------------------

Section 2 Hazards Identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: None required
Pictograms: No symbol required
Target organs: None known

GHS Classification: None required
GHS Label information: Hazard statement: None required
Precautionary statement: None required

Supplemental information:

CAUSES EXTREMELY SLIPPERY CONDITIONS WHEN WET!

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Sodium polyacrylate	9003-04-7	100%	None assigned

Section 4 First Aid Measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY CAUSE IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Extremely slippery conditions are created if spilled product comes in contact with water.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water. Use caution during cleanup as extremely slippery conditions will result in contact with water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8

Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Acrylic acid polymer	Not established	Not established	Not established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9

Physical & Chemical Properties

Appearance: Solid. White granular powder	Evaporation rate (= 1): <1.0	Partition coefficient: Data not available
Odor: No odor	Flammability (solid/gas): Data not available	Auto-ignition temperature: Data not available
Odor threshold: Data not available	Explosion limits: Lower / Upper: Data not available	Decomposition temperature: >200°C
pH: 5.5-6.5 (1% in water)	Vapor pressure (mm Hg): <10	Viscosity: Data not available
Melting / Freezing point: >198.89°C (>390°F)	Vapor density (Air = 1): Data not available	Molecular formula: (C ₃ H ₃ NaO ₂) _n
Boiling point: Data not available	Relative density (Specific gravity): 0.4 - 0.7 g/ml	Molecular weight: None assigned
Flash point: Data not available	Solubility(ies): Insoluble in water / Swells in water	

Section 10

Stability & Reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Avoid contact with water, extremely slippery conditions will result.

Incompatible materials: None known.

Hazardous decomposition products: None known.

Section 11

Toxicological Information

Acute toxicity: Oral-rat LD50: >5000 mg/kg ; Dermal-rat LD50: >2000 mg/kg

Skin corrosion/irritation: Skin-rabbit - Method: OECD Nr 404 - Very slight irritant

Serious eye damage/irritation: Eyes-rabbit - Method: OECD Nr 405 - Very slight irritant

Respiratory or skin sensitization: Guinea pig - Method: OECD Nr 406 - No sensitization

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Exposure to respirable dust may cause respiratory tract and lung irritation and may aggravate existing respiratory conditions.

Ingestion: Non-toxic if ingested. However, as in any instance of non-food consumption, seek medical attention in the event of any adverse symptoms.

Skin: May aggravate existing skin conditions due to drying effect.

Eyes: May cause burning, drying, itching, and other discomfort, resulting in reddening of the eyes.

Signs and symptoms of exposure: Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: WD6826000

Section 12

Ecological Information

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13

Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14

Transport Information (US DOT / CANADA / IATA)

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Marine pollutant: No

Exceptions: Not applicable

2012 ERG Guide # Not applicable

Section 15

Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Sodium polyacrylate	Listed	Not listed	Not listed	Listed	Not listed	Not listed

Section 16

Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Section 1 Chemical Product and Company Information

5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product SODIUM SILICATE SOLUTION
Synonyms Liquid Sodium Silicate / Water Glass

Section 2 Hazards Identification

Signal word: WARNING
Pictograms: GHS07
Target organs: Eyes, Skin



GHS Classification:
Acute toxicity, oral (Category 4)
Skin irritation (Category 2)
Eye irritation (Category 2A)
STOT SE (Category 3)

GHS Label information: Hazard statement(s):

H302: Harmful if swallowed.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.

Precautionary statement(s):

P261: Avoid breathing mist/vapours/spray.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
P330: Rinse mouth.
P302+P352: IF ON SKIN: Wash with plenty of water and soap.
P332+P313: If skin irritation occurs: Get medical attention.
P362+P364: Take off contaminated clothing and wash it before reuse.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312: Call a POISON CENTER or doctor if you feel unwell.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists: Get medical attention.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.
P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Water	7732-18-5	51-80%	231-791-2
Sodium silicate (Silicic acid)	1344-09-8	20-49%	215-687-4

Section 4 First Aid Measures

INGESTION: HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY CAUSE RESPIRATORY IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Use extinguishing agent suitable for type of surrounding fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume. Do not store in aluminum containers as flammable hydrogen gas may be generated. Spill site may be slippery.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 7 Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances. Do not store in aluminum containers as flammable hydrogen gas may be generated.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Sodium metasilicate	None established	None established	None established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Liquid. Clear to opaque.	Evaporation rate (= 1): Data not available	Partition coefficient: Data not available
Odor: Slight soapy odor.	Flammability (solid/gas): Data not available.	Auto-ignition temperature: Data not available
Odor threshold: Data not available.	Explosion limits: Lower / Upper: Data not available	Decomposition temperature: Data not available.
pH: 11.2 to 11.8	Vapor pressure (mm Hg): Data not available	Viscosity: Data not available.
Melting / Freezing point: -1°C (30°F)	Vapor density (Air = 1): Data not available	Molecular formula: Mixture
Boiling point: 101-102°C (214-216°F)	Relative density (Specific gravity): 1.32-1.61	Molecular weight: Mixture
Flash point: Data not available	Solubility(ies): Complete in water.	

Section 10 Stability & Reactivity

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures which cause evaporation.

Incompatible materials: Acids, prolonged contact with aluminum, brass, bronze, copper, lead, tin, zinc or other alkali sensitive metals or alloys.

Hazardous decomposition products: Prolonged contact with incompatible metals may produce flammable hydrogen gas. Contact with acids will cause gelling and evolution of heat.

Section 11 Toxicological Information

Acute toxicity: Oral-rat LD50: 1000-2200 mg/kg

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Draize: 2.54 - irritant (pH 11.6)

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Product will cause respiratory irritation.

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: May cause respiratory irritation. Symptoms may include coughing, choking, and pain.

Ingestion: Harmful if swallowed. May cause irritation of the esophagus and gastrointestinal tract. Repeated ingestion may cause ulcers.

Skin: Causes skin irritation.

Eyes: Causes serious eye irritation. Prolonged exposure may cause corneal burns. Effects depend on concentration and duration of exposure. Repeated or prolonged contact may result in conjunctivitis.

Signs and symptoms of exposure: Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: None assigned

Section 12 Ecological Information

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Label Information

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Exceptions: Not applicable


2012 ERG Guide # Not applicable

Reportable Quantity: No

Marine pollutant: No

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Sodium silicate	Listed	Not listed	Not listed	Not listed	Not listed	D2B 

Section 16 Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure.

Section 1: Chemical Product and Company Information

5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product SODIUM SULFATE, 0.1 Molar SOLUTION

Synonyms Sodium Sulfate, Water Solution

Section 2: Hazards Identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: None required
Pictograms: No symbol required
Target organs: None known

GHS Classification: None required
GHS Label Information: Hazard statement: None required
Precautionary statement: None required

Supplemental information:

Do not breathe mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 3: Composition/Information on Ingredients

Nommé Chimique	# CAS	%	EINECS
Water	7732-18-5	98.58%	231-791-2
Sodium sulfate	7757-82-6	1.42%	231-820-9

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE TRANSIENT IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY CAUSE TRANSIENT IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 4: Fire Fighting Measures

Suitable Extinguishing Media: Use extinguishing agent suitable for type of surrounding fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume.

Section 5: Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 7 Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Sodium sulfate	None established.	None established.	None established.

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Clear, colorless liquid.

Odor: No odor.

Odor threshold: Data not available.

pH: Data not available

Melting / Freezing point: Approximately 0°C (32°F) (water)

Boiling point: Approximately 100°C (212°F) (water)

Flash point: Data not available

Evaporation rate (Water = 1): <1

Flammability (solid/gas): Data not available.

Explosion limits: Lower / Upper: Data not available

Vapor pressure (mm Hg): 14 (water)

Vapor density (Air = 1): 0.7 (water)

Relative density (Specific gravity): Approximately 1.0 (water)

Solubility(ies): Complete in water.

Partition coefficient: Data not available

Auto-ignition temperature: Data not available

Decomposition temperature: Data not available.

Viscosity: Data not available.

Molecular formula: Mixture

Molecular weight: Mixture

Section 10 Stability & Reactivity

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures which cause evaporation.

Incompatibilities with other materials: Molten active metals, including aluminum and magnesium, acids.

Hazardous decomposition products: Oxides of sulfur.

Section 11 Toxicological Information

Acute toxicity: Oral-rat LD50: >10,000 mg/kg

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

Skin: May cause mild irritation.

Eyes: May cause mild irritation.

Signs and symptoms of exposure: To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: No data available

Section 12 Ecological Information

Toxicity to fish: *Gambusia affinis* (Fish, fresh water) LC50: 120 mg/l/96 hours [Sodium sulfate]

Toxicity to daphnia and other aquatic invertebrates: *Daphnia magna* (Crustacea) EC50: 630 mg/l/96 hours [Sodium sulfate]

Toxicity to algae: *Chlorella pyrenoidosa* (Algae) EC199: 57,700 mg/l/8 days [Sodium sulfate]

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Exceptions: Not applicable

2012 ERG Guide # Not applicable

Reportable Quantity: No

Marine pollutant: No

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Sodium sulfate	Listed	Not listed	Not listed	Listed	Not listed	Not listed

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

SECTION 1: Identification



5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product	SODIUM SULFATE, ANHYDROUS
Synonyms	Disodium Sulfate

SECTION 2: Hazard Identification

Signal word: WARNING
Pictograms: GHS07
Target organs: None known.



GHS Classification:
Skin irrit. (Category 2)
Eye irrit. (Category 2A)

GHS Label information: Hazard statement:
H315: Causes skin irritation.
H319: Causes serious eye irritation.

Precautionary statement:
P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313: If skin irritation occurs: Get medical advice/attention.
P337+P313: If eye irritation persists: Get medical advice/attention.
P362+P364: Take off contaminated clothing and wash before reuse.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 3: Composition/Information on Ingredients

Nommé Chimique	# CAS	%	EINECS
Sodium sulfate	7757-82-6	100%	231-820-9

SECTION 4: First Aid Measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.
INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.
SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

SECTION 5: Fire Fighting Measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam. Use any media suitable for extinguishing supporting fire
Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.
Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

SECTION 6: Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.
Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.
Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Read label on container before using. Do not wear contact lenses when working with chemicals. Keep container tightly closed. Keep out of reach of children. Use with adequate ventilation. Wash thoroughly after handling.

Handling: Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid ingestion. Do not inhale dusts. Wash thoroughly after handling. Remove and wash clothing before reuse.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Sodium sulfate	None established.	None established.	None established.

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Appearance: Solid. White, crystalline powder.

Odor: No odor.

Odor threshold: Data not available.

pH: Data not available.

Melting / Freezing point: 888°C (1630°F)

Boiling point: >1000°C (1832°F)

Flash point: Not applicable

Evaporation rate (= 1): Not applicable
Flammability (solid/gas): Not applicable
Explosion limits: Lower / Upper: Not applicable
Vapor pressure (mm Hg): Negligible
Vapor density (Air = 1): Data not available
Relative density (Specific gravity): 2.698 @ 20°C
Solubility(ies): 22% @ 25°C

Partition coefficient: Data not available
Auto-ignition temperature: Not applicable
Decomposition temperature: Data not available.
Viscosity: Data not available.
Molecular formula: Na₂SO₄
Molecular weight: 142.04

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Hygroscopic material. Protect from moisture.

Incompatibilities with other materials: Molten active metals, including aluminum and magnesium, acids.

Hazardous decomposition products: Oxides of sulfur.

Acute toxicity: Oral-rat LD50: 5,989 mg/kg

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Inhalation may irritate nose, throat and lungs.

Ingestion: Not generally considered toxic. However, if swallowed, irritation may develop in the mouth, esophagus and stomach. May cause purging.

Skin: Prolonged skin contact may cause irritation.

Eyes: Contact with eyes may cause irritation.

Signs and symptoms of exposure: See Potential health effects above. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: WE1650000

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

UN/NA number: None assigned

Shipping name: Not Regulated.

Hazard class: None assigned **Packing group:** None assigned **Reportable Quantity:** No **Marine pollutant:** No **Exceptions:** No

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RC)	RCRA code	DSL	NDSL	WHMIS Classification
Sodium sulfate	Listed	Not listed	Not listed	Listed	Not listed	Uncontrolled product

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure.

Safety Data Sheet

Sodium Sulfite, 0.1M Solution

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Sodium Sulfite, 0.1M Solution
Recommended Use: Science education applications
Synonyms: Disodium Sulfite, Exsiccated Sodium Sulfite
Distributor: Carolina Biological Supply Company
2700 York Road, Burlington, NC 27215
1-800-227-1150
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

DANGER



May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Harmful to aquatic life.

GHS Classification:

Respiratory Sensitisation Category 1, Skin Sensitisation Category 1, Hazardous to the aquatic environment - Acute Category 3

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%
Water	7732-18-5	98.74
Sodium sulfite (neutral or alkaline)	7757-83-7	1.26

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Skin Contact: After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.
Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use media suitable to extinguish surrounding fire.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Fire or excessive heat may produce hazardous decomposition products.
Hazardous Combustion Products: Sulfur Oxides, Sodium Oxides

Safety Data Sheet

Section 6

Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled:

Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill.

Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Contain the discharged material. Do not allow the spilled product to enter public drainage system or open waterways.

Section 7

Handling and Storage

Handling: Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation wear respiratory protection.

Storage: Keep container tightly closed in a cool, well-ventilated place.

Storage Code: Green - general chemical storage

Section 8

Protection Information

Chemical Name	ACGIH		OSHA PEL	
	(TWA)	(STEL)	(TWA)	(STEL)
Sodium Sulfite, Anhydrous	N/A	N/A	N/A	N/A

Control Parameters

Engineering Measures: No exposure limits exist for the constituents of this product. General room ventilation might be required to maintain operator comfort under normal conditions of use.

Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.

Respiratory Protection:

Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: No information available

Section 9

Physical Data

Formula: Mixture
Molecular Weight: Mixture
Appearance: Colorless Liquid
Odor: None
Odor Threshold: No data available
pH: No data available
Melting Point: = 0 C
Boiling Point: 100 C
Flash Point: No data available
Flammable Limits in Air: No data available

Vapor Pressure: 14 (water)
Evaporation Rate (BuAc=1): (Water = 1): <1
Vapor Density (Air=1): 0.7 (water)
Specific Gravity: Approximately 1.0 (water)
Solubility in Water: Soluble
Log Pow (calculated): No value
Autoignition Temperature: No data available
Decomposition Temperature: No data available
Viscosity: No data available
Percent Volatile by Volume: No data available

Section 10

Reactivity Data

Reactivity: Not generally reactive under normal conditions.
Chemical Stability: Stable under normal conditions.
Conditions to Avoid: Exposure to moisture
Incompatible Materials: Strong acids, Strong oxidizing agents
Hazardous Decomposition Products: Sodium Oxides, Sulfur Oxides

Safety Data Sheet

Hazardous Polymerization: Will not occur

Section 11 Toxicity Data

Routes of Entry: Inhalation and skin contact.
Symptoms (Acute): Respiratory disorders, Central Nervous System Depression, Cardiovascular system
Delayed Effects: Changes in smell and taste.

Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Water	7732-18-5	Oral LD50 Rat 90000 mg/kg		
Sodium sulfite (neutral or alkaline)	7757-83-7	Oral LD50 Rat 3560 mg/kg Oral LD50 Mouse 820 mg/kg		

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
No data available	7732-18-5 7757-83-7	Not listed	Not listed	Not listed

Chronic Effects:

Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: Evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: No data available
Chronic: No data available

Section 12 Ecological Data

Overview: Slight ecological hazard. In high concentrations, this product may be dangerous to plants and/or wildlife.
Mobility: This material is expected to have high mobility in soil. It absorbs weakly to most soil types.
Persistence: No data
Bioaccumulation: No data
Degradability: No data
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
Water	7732-18-5	No data available
Sodium sulfite (neutral or alkaline)	7757-83-7	24 HR LC50 PSAMMECHINUS MILIARIS 330 MG/L

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): Not Determined

Section 14 Transport Information

Ground - DOT Proper Shipping Name: Not regulated for transport by US DOT.
Air - IATA Proper Shipping Name: Not regulated for air transport by IATA.

Safety Data Sheet

Section 15

Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Sodium Sulfite, Anhydrous	7732-18-5 7757-83-7	No	No	No	No	No

California Prop 65: No California Proposition 65 ingredients

Section 16

Additional Information

Revised: 08/21/2018

Replaces: 06/15/2018

Printed: 08-24-2018

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health

Safety Data Sheet

Sodium Thiosulfate, Anhydrous

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Sodium Thiosulfate, Anhydrous

Recommended Use: Science education applications

Synonyms: Sodium Hyposulfite.; Thiosulfuric Acid, Disodium Salt

Distributor: Carolina Biological Supply Company
2700 York Road, Burlington, NC 27215
1-800-227-1150

Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)

Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

GHS Classification:

Other Safety Precautions: Not a dangerous substance according to GHS classification criteria.
No known OSHA hazards.
May cause irritation.
May cause gastrointestinal discomfort.
May cause irritation to respiratory tract.
May cause irritation to skin.

Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Sodium Thiosulfate, Anhydrous	7772-98-7	100

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.

Eyes: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin Contact: After contact with skin, wash immediately with plenty of water.

Ingestion: If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use dry chemical, CO2 or appropriate foam.

Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.

Fire and/or Explosion Hazards: N/A

Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: No adverse health affects expected from the clean-up of spilled material. Follow personal protective equipment recommendations found in Section 8 of this (M)SDS. Ventilate the contaminated area.

Safety Data Sheet

Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Avoid creating dusts. Cover material with absorbent and moisten and collect for disposal.

Section 7 Handling and Storage

Handling: Avoid creating and inhaling dust. Keep away from ... (incompatible materials to be indicated by the manufacturer).

Storage: Keep container tightly closed in a cool, well-ventilated place.

Storage Code: Green - general chemical storage

Section 8 Protection Information

<u>Chemical Name</u>	<u>ACGIH</u>	<u>OSHA PEL</u>		
	(TWA)	(STEL)	(TWA)	(STEL)
No data available	N/A	N/A	N/A	N/A

Control Parameters

Engineering Measures: No exposure limits exist for the constituents of this product. General room ventilation might be required to maintain operator comfort under normal conditions of use.

Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.

Respiratory Protection: No respiratory protection required under normal conditions of use.

Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: Nitrile

Section 9 Physical Data

Formula: Na ₂ S ₂ O ₃	Vapor Pressure: N/A
Molecular Weight: 158.11	Evaporation Rate (BuAc=1): N/A
Appearance:	Vapor Density (Air=1): N/A
Odor: No data available	Specific Gravity: 1.67
Odor Threshold: No data available	Solubility in Water: Slightly Soluble
pH: 6.0 - 8.5 at 50 g/l at 20 °C	Log Pow (calculated): No data available
Melting Point: 52 C	Autoignition Temperature: No data available
Boiling Point: No data available	Decomposition Temperature: No data available
Flash Point: No data available	Viscosity: No data available
Flammable Limits in Air: N/A	Percent Volatile by Volume: N/A

Section 10 Reactivity Data

Reactivity:	No data available
Chemical Stability:	Stable under normal conditions.
Conditions to Avoid:	None known.
Incompatible Materials:	Sodium Nitrate,, Metal Nitrates,, Silver, Free Iodine, Acids
Hazardous Decomposition Products:	Sulfur Oxides
Hazardous Polymerization:	Will not occur

Section 11 Toxicity Data

Routes of Entry: Inhalation, ingestion, eye or skin contact.

Symptoms (Acute): Respiratory disorders, , Eye disorders

Delayed Effects: No data available

Acute Toxicity:	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Chemical Name				

Sodium Thiosulfate, Anhydrous

Safety Data Sheet

Sodium Thiosulfate, Anhydrous 7772-98-7 Oral LD50 Rat > 5000 mg/kg Not determined Not determined

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
No data available	7772-98-7	Not listed	Not listed	Not listed

Chronic Effects:

Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: See Section 2
Chronic: Not listed as a carcinogen by IARC, NTP or OSHA.

Section 12 Ecological Data

Overview: This material is not expected to be harmful to the ecology.
Mobility: No data
Persistence: No data
Bioaccumulation: No data
Degradability: No data
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
Sodium Thiosulfate, Anhydrous	7772-98-7	96 HR LC50 GAMBUSIA AFFINIS 24000 MG/L [STATIC]

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): Not Determined

Section 14 Transport Information

Ground - DOT Proper Shipping Name:	Air - IATA Proper Shipping Name:
N/A	Not regulated for air transport by IATA.

Section 15 Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
No data available	7772-98-7	No	No	No	No	No

Section 16 Additional Information

Revised: 09/03/2014

Replaces: 09/03/2014

Printed: 09-11-2014

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

Safety Data Sheet

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health

Section 1 Chemical Product and Company Information

Page E1 of E2



5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product SODIUM THIOSULFATE, ANHYDROUS

Synonyms Sodium Hyposulfite

Section 2 Hazards Identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: Not classified

Pictograms: Not classified

Target organs: None known

GHS Classification: Not classified

GHS Label information: Hazard statement: Not classified

Precautionary statement: Not classified

Supplementary information:

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Sodium thiosulfate, anhydrous	7772-98-7	100%	231-867-5

Section 4 First Aid Measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Particles not otherwise classified	Not established	TWA: 15 mg/m ³ total dust	Not established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: White, crystalline solid.	Evaporation rate (= 1): Not applicable	Partition coefficient: Data not available
Odor: No odor.	Flammability (solid/gas): Data not available	Auto-ignition temperature: Data not available
Odor threshold: Data not available	Explosion limits: Lower / Upper: Not applicable	Decomposition temperature: Data not available
pH: Data not available	Vapor pressure (mm Hg): Negligible	Viscosity: Data not available
Melting / Freezing point: 48°C (118°F)	Vapor density (Air = 1): Data not available	Molecular formula: Na ₂ S ₂ O ₃
Boiling point: >100°C (212°F)	Relative density (Specific gravity): 1.667 @ 20°C	Molecular weight: 158.11
Flash point: Not flammable	Solubility(ies): Completely soluble in water.	

Section 10 Stability & Reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.
Conditions to avoid: Excessive temperatures and heat.
Incompatible materials: Strong oxidizing agents, sodium nitrate, iodides, silver salts, mercury salts, lead.
Hazardous decomposition products: Sodium oxides, sulfur oxides.

Section 11 Toxicological Information

Acute toxicity: Data not available
Skin corrosion/irritation: Data not available
Serious eye damage/irritation: Data not available
Respiratory or skin sensitization: Data not available
Germ cell mutagenicity: Data not available
Carcinogenicity: Data not available
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive toxicity: Data not available
STOT-single exposure: Data not available
STOT-repeated exposure: Data not available
Aspiration hazard: Data not available
Potential health effects:
Inhalation: Inflammation and swelling of the larynx and bronchi, spasm, chemical pneumonitis and pulmonary edema, burning, coughing, wheezing, laryngitis, shortness of breath, headache.
Ingestion: Nausea and vomiting.
Skin: Irritation, itchiness, redness.
Eyes: Irritation, redness, tearing.
Signs and symptoms of exposure: See Potential health effects above. Exercise appropriate procedures to minimize potential hazards.
Additional information: RTECS #: XN6476000

Section 12 Ecological Information

Toxicity to fish: No data available
Toxicity to daphnia and other aquatic invertebrates: No data available
Toxicity to algae: No data available
Persistence and degradability: No data available **Bioaccumulative potential:** No data available
Mobility in soil: No data available **PBT and vPvB assessment:** No data available
Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information (US DOT / CANADA TDG)

UN/NA number: Not applicable **Shipping name:** Not Regulated
Hazard class: Not applicable **Packing group:** Not applicable **Reportable Quantity:** No / **Marine pollutant:** No
Exceptions: Not applicable **2012 ERG Guide #:** Not applicable

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Sodium thiosulfate, anhydrous	Listed	Not listed	Not listed	Listed	Not listed	Uncontrolled product

Section 16 Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Safety Data Sheet

RUST-OLEUM
CORPORATION
* Trusted Quality Since 1921 *
www.rustoleum.com

1. Identification

Product Name:	SPECLT SSPR 6PK EPOXY GLOSS WHITE 12 OZ	Revision Date:	11/4/2015
Product Identifier:	7881830	Supersedes Date:	10/19/2015
Product Use/Class:	Appliance Epoxy/White Aerosol		
Supplier:	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA	Manufacturer:	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA
Preparer:	Regulatory Department		
Emergency Telephone:	24 Hour Hotline: 847-367-7700		

2. Hazard Identification

Classification

Symbol(s) of Product



Signal Word

Danger

Possible Hazards

24% of the mixture consists of ingredient(s) of unknown acute toxicity.

GHS HAZARD STATEMENTS

Flammable Aerosol, category 1	H222	Extremely flammable aerosol.
Compressed Gas	H280	Contains gas under pressure; may explode if heated.
Skin Irritation, category 2	H315	Causes skin irritation.
Eye Irritation, category 2	H319	Causes serious eye irritation.
Acute Toxicity, Inhalation, category 4	H332	Harmful if inhaled.
STOT, single exposure, category 3, NE	H336	May cause drowsiness or dizziness.
Reproductive Toxicity, category 2	H361	Suspected of damaging fertility or the unborn child. Classified Category 2 suspected human reproductive toxicant irreversible effects such as structural malfunctions, embryo/foetal lethality, post natal functional deficiencies.
STOT, repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.

GHS LABEL PRECAUTIONARY STATEMENTS

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. NO SMOKING.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P260	Do not breathe dust, fumes, gases, mists, vapors, or spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.

P305+P351+P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313

IF exposed or concerned: Get medical advice/attention.

P312

Call a POISON CENTER or doctor/physician if you feel unwell.

P337+P313

If eye irritation persists: Get medical advice/attention.

P362

Take off contaminated clothing.

P403+P233

Store in a well-ventilated place. Keep container tightly closed.

P410+P403

Protect from sunlight. Store in a well-ventilated place.

P410+P412

Protect from sunlight. Do not expose to temperatures exceeding 50°C / 122°F.

3. Composition/Information On Ingredients

HAZARDOUS SUBSTANCES

<u>Chemical Name</u>	<u>CAS-No.</u>	<u>Wt. % Range</u>	<u>GHS Symbols</u>	<u>GHS Statements</u>
Acetone	67-64-1	10-25	GHS02-GHS07	H225-319-332-336
Propane	74-98-6	10-25	GHS04	H280
Titanium Dioxide	13463-67-7	10-25	No Information	No Information
Xylene (mixed isomers)	1330-20-7	10-25	GHS02-GHS07	H226-315-319-332
n-Butane	106-97-8	2.5-10	GHS04	H280
n-Butyl Acetate	123-86-4	2.5-10	GHS02-GHS07	H226-319-336
Ethylbenzene	100-41-4	2.5-10	GHS02-GHS07-GHS08	H225-304-332-373
Barium Sulfate	7727-43-7	2.5-10	No Information	No Information
Kaolin Clay	1332-58-7	1.0-2.5	No Information	No Information
Stoddard Solvent	8052-41-3	0.1-1.0	GHS08	H304-372
Toluene	108-88-3	0.1-1.0	GHS02-GHS07-GHS08	H225-304-315-332-336-361-373

4. First-aid Measures

FIRST AID - EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed.

FIRST AID - SKIN CONTACT: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

FIRST AID - INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention. Do NOT use mouth-to-mouth resuscitation. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

FIRST AID - INGESTION: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention. If swallowed, get medical attention.

5. Fire-fighting Measures

EXTINGUISHING MEDIA: Alcohol Film Forming Foam, Carbon Dioxide, Dry Chemical, Dry Sand, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: FLASH POINT IS LESS THAN 20°F. EXTREMELY FLAMMABLE LIQUID AND VAPOR! Water spray may be ineffective. Closed containers may explode when exposed to extreme heat due to buildup of steam. Closed containers may explode when exposed to extreme heat. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Perforation of the pressurized container may cause bursting of the can. No unusual fire or explosion hazards noted.

SPECIAL FIREFIGHTING PROCEDURES: Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion. Full protective equipment including self-contained breathing apparatus should be used. Evacuate area and fight fire from a safe distance. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers. Ventilate area, isolate spilled material, and remove with inert absorbent. Dispose of contaminated absorbent, container, and unused contents in accordance with local, state, and federal regulations.

7. Handling and Storage

HANDLING: Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and launder before reuse. Use only in a well-ventilated area. Use only with adequate ventilation. Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Avoid breathing fumes, vapors, or mist. Avoid contact with eyes, skin and clothing.

STORAGE: Store in a dry, well ventilated place. Keep container tightly closed when not in use. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Contents under pressure. Do not store above 120 ° F. Store large quantities in buildings designed and protected for storage of NFPA Class I flammable liquids. Keep away from heat, sparks, flame and sources of ignition. Contents under pressure. Do not expose to heat or store above 120 ° F. Avoid excess heat. Product should be stored in tightly sealed containers and protected from heat, moisture, and foreign materials.

8. Exposure Controls/Personal Protection

Chemical Name	CAS-No.	Weight % Less Than	ACGIH TLV- TWA	ACGIH TLV- STEL	OSHA PEL-TWA	OSHA PEL- CEILING
Acetone	67-64-1	25.0	250 ppm	500 ppm	1000 ppm	N.E.
Propane	74-98-6	20.0	N.E.	N.E.	1000 ppm	N.E.
Titanium Dioxide	13463-67-7	15.0	10 mg/m3	N.E.	15 mg/m3	N.E.
Xylene (mixed isomers)	1330-20-7	15.0	100 ppm	150 ppm	100 ppm	N.E.
n-Butane	106-97-8	10.0	N.E.	1000 ppm	N.E.	N.E.
n-Butyl Acetate	123-86-4	10.0	150 ppm	200 ppm	150 ppm	N.E.
Ethylbenzene	100-41-4	5.0	20 ppm	N.E.	100 ppm	N.E.
Barium Sulfate	7727-43-7	5.0	5 mg/m3	N.E.	15 mg/m3	N.E.
Kaolin Clay	1332-58-7	5.0	2 mg/m3	N.E.	15 mg/m3	N.E.
Stoddard Solvent	8052-41-3	1.0	100 ppm	N.E.	500 ppm	N.E.
Toluene	108-88-3	1.0	20 ppm	N.E.	200 ppm	300 ppm

PERSONAL PROTECTION

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment. Provide general dilution of local exhaust ventilation in volume and pattern to keep TLV of hazardous ingredients below acceptable limits. Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

SKIN PROTECTION: Use gloves to prevent prolonged skin contact. Use impervious gloves to prevent skin contact and absorption of this material through the skin. Nitrile or Neoprene gloves may afford adequate skin protection.

EYE PROTECTION: Use safety eyewear designed to protect against splash of liquids.

OTHER PROTECTIVE EQUIPMENT: Refer to safety supervisor or industrial hygienist for further guidance regarding types of personal protective equipment and their applications. Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application.

HYGIENIC PRACTICES: Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing immediately and launder before reuse.

9. Physical and Chemical Properties

Appearance:	Aerosolized Mist	Physical State:	Liquid
Odor:	Solvent Like	Odor Threshold:	N.E.
Relative Density:	0.843	pH:	N.D.
Freeze Point, °C:	N.D.	Viscosity:	N.D.
Solubility in Water:	Slight	Partition Coefficient, n-octanol/ water:	N.D.
Decomposition Temp., °C:	N.D.	Explosive Limits, vol%:	1.0 - 13.0
Boiling Range, °C:	-24 - 142	Flash Point, °C:	-96
Flammability:	Supports Combustion	Auto-ignition Temp., °C:	N.D.
Evaporation Rate:	Faster than Ether	Vapor Pressure:	N.D.
Vapor Density:	Heavier than Air		

(See "Other information" Section for abbreviation legend)

10. Stability and Reactivity

CONDITIONS TO AVOID: Avoid temperatures above 120°F (49°C). Avoid contact with strong acid and strong bases. Avoid all possible sources of ignition.

INCOMPATIBILITY: Incompatible with strong oxidizing agents, strong acids and strong alkalis.

HAZARDOUS DECOMPOSITION: By open flame, carbon monoxide and carbon dioxide. When heated to decomposition, it emits acrid smoke and irritating fumes. Contains solvents which may form carbon monoxide, carbon dioxide, and formaldehyde.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

11. Toxicological information

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Causes Serious Eye Irritation

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Substance may cause slight skin irritation. May be absorbed through the skin in harmful amounts. May cause skin irritation. Allergic reactions are possible. Prolonged or repeated contact may cause skin irritation.

EFFECTS OF OVEREXPOSURE - INHALATION: Harmful if inhaled. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Avoid breathing fumes, spray, vapors, or mist. High vapor concentrations are irritating to the eyes, nose, throat and lungs. Prolonged or excessive inhalation may cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Harmful if swallowed. Aspiration hazard if swallowed; can enter lungs and cause damage.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis, and blurred vision) and/or damage. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage. IARC lists Ethylbenzene as a possible human carcinogen (group 2B). Contains Titanium Dioxide. Titanium Dioxide is listed as a Group 2B-"Possibly carcinogenic to humans" by IARC. No significant exposure to Titanium Dioxide is thought to occur during the use of products in which Titanium Dioxide is bound to other materials, such as in paints during brush application or drying. Risk of overexposure depends on duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of Titanium Dioxide in the formula. (Ref: IARC Monograph, Vol. 93, 2010)

PRIMARY ROUTE(S) OF ENTRY: Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

ACUTE TOXICITY VALUES

The acute effects of this product have not been tested. Data on individual components are tabulated below:

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Vapor LC50</u>
67-64-1	Acetone	5800 mg/kg Rat	N.I.	50.1 mg/L Rat
74-98-6	Propane	N.I.	N.I.	658 mg/L Rat
13463-67-7	Titanium Dioxide	>10000 mg/kg Rat	N.I.	N.I.
1330-20-7	Xylene (mixed isomers)	3500 mg/kg Rat	>4350 mg/kg Rabbit	29.08 mg/L Rat
106-97-8	n-Butane	N.I.	N.I.	658 mg/L Rat
123-86-4	n-Butyl Acetate	10768 mg/kg Rat	>17600 mg/kg Rabbit	> 21 mg/L Rat
100-41-4	Ethylbenzene	3500 mg/kg Rat	15400 mg/kg Rabbit	17.2 mg/L Rat
108-88-3	Toluene	2600 mg/kg Rat	12000 mg/kg Rabbit	12.5 mg/L Rat

N.I. - No Information

12. Ecological Information

ECOLOGICAL INFORMATION: Product is a mixture of listed components. Product is a mixture of listed components.

13. Disposal Information

DISPOSAL INFORMATION: Dispose of material in accordance to local, state, and federal regulations and ordinances. Do not allow to enter waterways, wastewater, soil, storm drains or sewer systems.

14. Transport Information

	<u>Domestic (USDOT)</u>	<u>International (IMDG)</u>	<u>Air (IATA)</u>	<u>TDG (Canada)</u>
UN Number:	N.A.	1950	1950	N.A.
Proper Shipping Name:	Paint Products in Limited Quantities	Aerosols	Aerosols	Paint Products in Limited Quantities
Hazard Class:	N.A.	2.1	2.1	N.A.
Packing Group:	N.A.	N.A.	N.A.	N.A.
Limited Quantity:	Yes	Yes	Yes	Yes

15. Regulatory Information**U.S. Federal Regulations:****CERCLA - SARA Hazard Category**

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Pressure Hazard, Acute Health Hazard, Chronic Health Hazard

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

<u>Chemical Name</u>	<u>CAS-No.</u>
Xylene (mixed isomers)	1330-20-7
Ethylbenzene	100-41-4
Toluene	108-88-3

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(b) if exported from the United States:

No TSCA 12(b) components exist in this product.

16. Other Information**HMIS RATINGS**

Health: 2* Flammability: 4 Physical Hazard: 0 Personal Protection: X

NFPA RATINGS

Health: 2 Flammability: 4 Instability: 0

VOLATILE ORGANIC COMPOUNDS, g/L: 500

SDS REVISION DATE: 11/4/2015

REASON FOR REVISION: Substance and/or Product Properties Changed in Section(s):
02 - Hazard Identification
03 - Composition/Information on Ingredients
11 - Toxicological Information
Product Composition Changed
Substance Regulatory CAS Number Changed
Substance Hazardous Flag Changed
Substance Hazard Threshold % Changed
Statement(s) Changed

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

Rust-Oleum Corporation believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. Rust-Oleum Corporation makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.

SAFETY DATA SHEET

7/7/2015

SECTION I - IDENTIFICATION

Material Name

SPEEDBALL W/S BLOCK PRINTING INK

Manufacturer Information

Speedball Art Products Co.
P.O. Box 5157
2301 Speedball Road
Statesville, NC 28677
Phone: 704-978-4166
Fax: 1-704-838-1472
Email: budmartin@speedballart.com

For transportation emergencies only call: 1-800-898-7224

For health emergencies call the Poison Control Center: 1-800-222-1222

SECTION II - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.

There are no GHS label elements.

PRIMARY ROUTES OF ENTRY: INHALATION, INGESTION, EYE, SKIN

EFFECTS AND SYMPTOMS OF ACUTE EXPOSURE: NONE EXPECTED

EFFECTS AND SYMPTOMS OF CHRONIC EXPOSURE: NONE EXPECTED

CARCINOGEN LISTING: NTP: **NO** IARC: **NO** OSHA: **NO**

SEE SECTION III FOR COMPONENTS AFFECTED

MEDICAL CONDITIONS USUALLY AGGRAVATED BY OVER EXPOSURE TO THIS PRODUCT: NONE

SECTION III - COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

<u>Hazardous Ingredients</u>	<u>CAS/EC #</u>	<u>PEL/TLV (MG/M#)</u>	<u>Max % Weight</u>	<u>NTP</u>	<u>IARC</u>
None					

SECTION IV - FIRST AID MEASURES

FIRST AID MEASURES: NONE REQUIRED. NO ACUTE HEALTH EFFECTS EXPECTED.

SECTION V - FIRE FIGHTING MEASURES

FLASH POINT (METHOD): N/A

EXPLOSION LIMITS IN AIR (% BY VOLUME): NOT EXPLOSIVE

AUTOIGNITION TEMPERATURE: N/A

EXTINGUISHING MEDIA: NO SPECIAL MEDIA REQUIRED
FIRE FIGHTING PROCEDURES: NO SPECIAL FIRE FIGHTING PROCEDURES REQUIRED
UNUSUAL FIRE & EXPLOSION HAZARDS: NOT COMBUSTIBLE

SECTION VI - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE A MATERIAL IS SPILLED: Clean up in accordance with all applicable regulations. Absorb spillage with non-combustible, absorbent material. For waste disposal, see Section XIII

SECTION VII - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN DURING STORAGE AND HANDLING: Good industrial hygiene practice requires that exposure be maintained below the TLV. This is preferably achieved through the provision of adequate ventilation. When exposure cannot be adequately controlled in this way, personal respiratory protection should be employed.

SECTION VIII - EXPOSURE CONTROLS / PERSONAL PROTECTION

RESPIRATORY PROTECTION AND SPECIAL VENTILATION REQUIREMENTS: NONE REQUIRED
OTHER PROTECTIVE EQUIPMENT (GLOVES, GOGGLES, ETC): NONE REQUIRED
WORK/HYGIENE PRACTICES: NONE REQUIRED
ENGINEERING CONTROLS: NONE REQUIRED

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: N/A	MELTING POINT: N/A
VAPOR PRESSURE: N/A	
SPECIFIC VAPOR DENSITY (AIR=1): N/A	SPECIFIC GRAVITY: N/A
SOLUBILITY IN WATER: N/A	REACTIVITY IN WATER: NON-REACTIVE

SECTION X - STABILITY AND REACTIVITY

HAZARDOUS POLYMERIZATION PRODUCTS: NONE
STABILITY: STABLE CONDITIONS TO AVOID: NONE
INCOMPATIBILITY (MATERIALS TO AVOID): NONE
HAZARDOUS DECOMPOSITION PRODUCTS: NONE

SECTION XI - TOXICOLOGICAL INFORMATION

ACUTE EFFECTS ASSOCIATED WITH USE OF THIS MATERIAL: NONE EXPECTED
The summated LD50 is 8546.6 mg/kg.
The summated LC50 is 99999 mg/cubic meter.
This product is not considered to be a known or suspected human carcinogen by NTP, IARC or OSHA (see section III)

SECTION XII - ECOLOGICAL INFORMATION

NO HARMFUL EFFECTS KNOWN OTHER THAN THOSE ASSOCIATED WITH SUSPENDED INERT SOLIDS IN WATER.

SECTION XIII - DISPOSAL CONSIDERATIONS

RCRA HAZARD CLASS (40 CFR 261): THIS PRODUCT IS NOT CLASSIFIED AS A HAZARDOUS WASTE.
WASTE DISPOSAL METHOD: DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION XIV - TRANSPORTATION INFORMATION

U.S. DOT (49 CFR 172.101); THIS IS NOT A HAZARDOUS MATERIAL AS CLASSIFIED BY CFR 172.101.

SECTION XV - REGULATORY INFORMATION

CONTENTS OF THIS SDS COMPLY WITH OSHA HAZARD COMMUNICATION STANDARD 29 CFR 1910.1200
EPA SARA TITLE III CHEMICAL LISTINGS
NONE

SECTION 302.4 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):
NONE

SECTION 313 TOXIC CHEMICALS (40 CFR 372):
ALUMINUM

INTERNATIONAL REGULATIONS

CANADIAN WHMIS: THIS PRODUCT IS A CONTROLLED PRODUCT UNDER CANADA'S WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. IT CONTAINS THE FOLLOWING TOXIC OR HIGHLY TOXIC MATERIALS:

ALUMINUM
FERRIC OXIDE
GUM ARABIC
MICA
OCTYLPHENOXYPOLYETHOXYETHANOL
PROPYLENE GLYCOL

SUPPLEMENTAL STATE COMPLIANCE INFORMATION:

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) LISTED UNDER NEW JERSEY'S RIGHT TO KNOW PROGRAM:

AMMONIUM HYDROXIDE
GUM ARABIC
MICA
PIGMENT RED 101
PIGMENT WHITE 6
SODIUM NITRATE

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) REQUIRING NOTIFICATION TO THE STATE OF WASHINGTON UNDER THEIR CHILDREN'S SAFE PRODUCTS ACT:
NONE

Under CPSC's consumer product regulations (16CFR1500.3 and 150014), this product has the following required acute and chronic hazard labeling:

NONE

SECTION XVI - OTHER INFORMATION

LAST REVISION DATE: 07/07/2015

Prepared by Duke OEM Toxicology

COLOR INFORMATION

THIS SDS APPLIES TO THE FOLLOWING COLORS WHICH ARE ASSOCIATED WITH HAZARDOUS AND/OR NON-HAZARDOUS INGREDIENTS

Product Color	SKU	Hazardous Ingredient
3400 BLACK		(NONE)
3401 RED		(NONE)
3402 BLUE		(NONE)
3403 WHITE		(NONE)
3404 GREEN		(NONE)
3405 YELLOW		(NONE)
3406 BROWN		(NONE)
3407 ORANGE		(NONE)
3408 VIOLET		(NONE)
3409 TURQUOISE		(NONE)
3410 MAGENTA		(NONE)
3411 LIGHT RED		(NONE)
3412 DARK YELLOW		(NONE)
3413 GOLD		(NONE)
3414 SILVER		(NONE)
3448 RETARDER		(NONE)
3449 EXTENDER		(NONE)
COPPER		(NONE)
PEWTER		(NONE)
PLATINUM WHITE		(NONE)
PROCESS CYAN		(NONE)
PROCESS MAGENTA		(NONE)
PROCESS YELLOW		(NONE)

BRAND NAMES

THIS SDS APPLIES TO THE FOLLOWING BRAND NAMES

<u>Brand Name</u>	<u>SKU</u>	<u>SKU Description</u>
SPEEDBALL W/S BLOCK PRINTING INK		
DICK BLICK W/S BLOCK PRINTING INK		
SAX TRUE FLOW WATER SOLUBLE BLOCK PRINTING INK		
TRIARCO BLOCK INK		
NASCO WATER SOLUBLE BLOCK PRINTING INK-STUDIO QUALITY		



SAFETY DATA SHEET

1. Identification

Product identifier: STAINLESS STEEL CLEANER & POLISH

Other means of identification

SDS number: RE1000012336

Recommended restrictions

Product use: Cleaner

Restrictions on use: Not known.

Manufacturer/Importer/Distributor Information

Manufacturer

Company Name: CLAIRE MANUFACTURING COMPANY.
Address: 1000 INTEGRAM DR.
Pacific, MO 63069
Telephone: 1-630-543-7600
Fax:

Emergency telephone number: 1-866-836-8855

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable aerosol Category 1

Health Hazards

Serious Eye Damage/Eye Irritation Category 2A

Skin sensitizer Category 1

Specific Target Organ Toxicity -
Single Exposure Category 3¹.

Aspiration Hazard Category 1

Target Organs

- 1. Narcotic effect.

Environmental Hazards

Acute hazards to the aquatic environment Category 2

Chronic hazards to the aquatic environment Category 2

Label Elements

Hazard Symbol:





Signal Word:	Danger
Hazard Statement:	Extremely flammable aerosol. Causes serious eye irritation. May cause an allergic skin reaction. May cause drowsiness or dizziness. May be fatal if swallowed and enters airways. Toxic to aquatic life with long lasting effects.
Precautionary Statements	
Prevention:	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace. Use only outdoors or in a well-ventilated area. Avoid release to the environment.
Response:	IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN: Wash with plenty of water/... If skin irritation or rash occurs: Get medical advice/attention. IF SWALLOWED: Immediately call a POISON CENTER/doctor/... Do NOT induce vomiting. Call a POISON CENTER/doctor if you feel unwell. Specific treatment (see on this label). Wash contaminated clothing before reuse. Collect spillage.
Storage:	Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal:	Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Hazard(s) not otherwise classified (HNOC):	None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Distillates (petroleum), hydrotreated light	64742-47-8	25 - <50%
White mineral oil (petroleum)	8042-47-5	20 - <50%
Propane	74-98-6	10 - <20%
2-Propanone	67-64-1	10 - <20%
Acetic acid, methyl ester	79-20-9	5 - <10%
Terpenes and Terpenoids, sweet orange-oil	68647-72-3	0.1 - <1%
2,6-Octadienal, 3,7-dimethyl-	5392-40-5	0.1 - <1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures



Ingestion:	Call a physician or poison control center immediately. Rinse mouth. Never give liquid to an unconscious person. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Inhalation:	Move to fresh air.
Skin Contact:	Get medical attention if symptoms occur. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

Most important symptoms/effects, acute and delayed

Symptoms: No data available.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: No data available.

5. Fire-fighting measures

General Fire Hazards: Use water spray to keep fire-exposed containers cool. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: Vapors may travel considerable distance to a source of ignition and flash back.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind. See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.



Methods and material for containment and cleaning up: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste.

Notification Procedures: Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid release to the environment.

7. Handling and storage

Precautions for safe handling: Avoid contact with eyes. Wash hands thoroughly after handling. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Avoid contact with eyes, skin, and clothing.

Conditions for safe storage, including any incompatibilities: Store locked up. Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Aerosol Level 3

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Distillates (petroleum), hydrotreated light	REL	100 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
Distillates (petroleum), hydrotreated light - Non-aerosol. - as total hydrocarbon vapor	TWA	200 mg/m ³	US. ACGIH Threshold Limit Values (2008)
	TWA	200 mg/m ³	US. ACGIH Threshold Limit Values (2008)
White mineral oil (petroleum) - Mist.	REL	5 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL	5 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	STEL	10 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	TWA	5 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
White mineral oil (petroleum) - Inhalable fraction.	TWA	5 mg/m ³	US. ACGIH Threshold Limit Values (01 2010)
	REL	1,000 ppm 1,800 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
Propane	PEL	1,000 ppm 1,800 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	1,000 ppm 1,800 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	1,000 ppm 2,400 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
2-Propanone	PEL	1,000 ppm 2,400 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	250 ppm	US. ACGIH Threshold Limit Values (03 2015)
	TWA	750 ppm 1,800 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	500 ppm	US. ACGIH Threshold Limit Values (03 2015)
	REL	250 ppm 590 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
Acetic acid, methyl ester	REL	200 ppm 610 mg/m ³	US. NIOSH: Pocket Guide to Chemical



				Hazards (2005)
	STEL	250 ppm	760 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2005)
	PEL	200 ppm	610 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	STEL	250 ppm		US. ACGIH Threshold Limit Values (2008)
	TWA	200 ppm	610 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	250 ppm	760 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	200 ppm		US. ACGIH Threshold Limit Values (2008)
2,6-Octadienal, 3,7-dimethyl- - Inhalable fraction and vapor.	TWA	5 ppm		US. ACGIH Threshold Limit Values (01 2010)
Naphtha (petroleum), heavy alkylate	PEL	100 ppm	400 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	100 ppm	400 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	REL	100 ppm	400 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
Bicyclo[3.1.1]hept-2-ene, 2,6,6-trimethyl-	TWA	20 ppm		US. ACGIH Threshold Limit Values (2008)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
2-Propanone (acetone: Sampling time: End of shift.)	25 mg/l (Urine)	ACGIH BEL (03 2015)

Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

General information: Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin Protection
Hand Protection: No data available.

Other: Wear suitable protective clothing. Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection: In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures: Observe good industrial hygiene practices. Avoid contact with eyes. When using do not smoke. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

9. Physical and chemical properties

Appearance



Physical state:	liquid
Form:	Spray Aerosol
Color:	No data available.
Odor:	No data available.
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	No data available.
Flash Point:	-104.4 °C
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	13.5 %(V)
Flammability limit - lower (%):	2.7 %(V)
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Density:	No data available.
Relative density:	No data available.
Solubility(ies)	
Solubility in water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Avoid heat or contamination.
Incompatible Materials:	No data available.
Hazardous Decomposition Products:	No data available.

11. Toxicological information

Information on likely routes of exposure

Inhalation: No data available.

Skin Contact: No data available.



Eye contact: No data available.

Ingestion: No data available.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Ingestion: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: Not classified for acute toxicity based on available data.

Dermal

Product: Not classified for acute toxicity based on available data.

Inhalation

Product: Not classified for acute toxicity based on available data.

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: No data available.

Serious Eye Damage/Eye Irritation

Product: No data available.

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.



Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Target Organs

Specific Target Organ Toxicity - Single Exposure: Narcotic effect.

Aspiration Hazard

Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments

Distillates (petroleum),
hydrotreated light No data available.



White mineral oil (petroleum)	No data available.
Propane	No data available.
2-Propanone	No data available.
Acetic acid, methyl ester	No data available.
Terpenes and Terpenoids, sweet orange-oil	No data available.
2,6-Octadienal, 3,7-dimethyl-	No data available.

Other adverse effects: Toxic to aquatic organisms.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated Packaging: No data available.

14. Transport information

DOT

UN Number:	UN 1950
UN Proper Shipping Name:	Aerosols, flammable
Transport Hazard Class(es)	
Class:	2.1
Label(s):	–
Packing Group:	II
Marine Pollutant:	No
Environmental Hazards:	No
Marine Pollutant	No
Special precautions for user:	Not regulated.

IMDG

UN Number:	UN 1950
UN Proper Shipping Name:	Aerosols, flammable
Transport Hazard Class(es)	
Class:	2
Label(s):	–
EmS No.:	F-D, S-U
Packing Group:	–
Environmental Hazards:	Yes
Marine Pollutant	No
Special precautions for user:	Not regulated.

IATA

UN Number:	UN 1950
Proper Shipping Name:	Aerosols, flammable
Transport Hazard Class(es):	
Class:	2.1
Label(s):	–
Packing Group:	–
Environmental Hazards:	Yes



Marine Pollutant No
Special precautions for user: Not regulated.
Cargo aircraft only: Allowed.

15. Regulatory information

US Federal Regulations

Restrictions on use: Not known.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Propane	lbs. 100
2-Propanone	lbs. 5000
Acetic acid, methyl ester	lbs. 100
Bicyclo[3.1.1]hept-2-ene, 2,6,6-trimethyl-	lbs. 100

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

- Fire Hazard
- Immediate (Acute) Health Hazards
- Flammable aerosol
- Serious Eye Damage/Eye Irritation
- Skin sensitizer
- Specific Target Organ Toxicity - Single Exposure
- Aspiration Hazard

SARA 302 Extremely Hazardous Substance

<u>Chemical Identity</u>	<u>Reportable quantity</u>	<u>Threshold Planning Quantity</u>
Distillates (petroleum), hydrotreated light		
2-Propanone		
Acetic acid, methyl ester		
Terpenes and Terpenoids, sweet orange-oil		

SARA 304 Emergency Release Notification

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Distillates (petroleum), hydrotreated light	
Propane	lbs. 100
2-Propanone	lbs. 5000
Acetic acid, methyl ester	lbs. 100
Terpenes and Terpenoids, sweet orange-oil	
Bicyclo[3.1.1]hept-2-ene, 2,6,6-trimethyl-	lbs. 100

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
Distillates (petroleum), hydrotreated light	10000 lbs



White mineral oil (petroleum)	10000 lbs
Propane	10000 lbs
2-Propanone	10000 lbs
Acetic acid, methyl ester	10000 lbs
Terpenes and Terpenoids, sweet orange-oil	10000 lbs
2,6-Octadienal, 3,7-dimethyl-	10000 lbs
Naphtha (petroleum), heavy alkylate	10000 lbs
Bicyclo[3.1.1]hept-2-ene, 2,6,6-trimethyl-	10000 lbs

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

US State Regulations

US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity

Distillates (petroleum), hydrotreated light
White mineral oil (petroleum)
Propane
2-Propanone
Acetic acid, methyl ester

US. Massachusetts RTK - Substance List

No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity

Distillates (petroleum), hydrotreated light
White mineral oil (petroleum)
Propane
2-Propanone
Acetic acid, methyl ester

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

International regulations

Montreal protocol

Distillates (petroleum), hydrotreated light
2-Propanone
Acetic acid, methyl ester
Terpenes and Terpenoids, sweet orange-oil

Stockholm convention

Distillates (petroleum), hydrotreated light
2-Propanone
Acetic acid, methyl ester
Terpenes and



Terpenoids, sweet
orange-oil

Rotterdam convention

Distillates (petroleum),
hydrotreated light
2-Propanone
Acetic acid, methyl ester
Terpenes and
Terpenoids, sweet
orange-oil

Kyoto protocol

Inventory Status:

Australia AICS:	Not in compliance with the inventory.
EINECS, ELINCS or NLP:	Not in compliance with the inventory.
Japan (ENCS) List:	Not in compliance with the inventory.
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	Not in compliance with the inventory.
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	Not in compliance with the inventory.
New Zealand Inventory of Chemicals:	Not in compliance with the inventory.
Japan ISHL Listing:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.
Mexico INSQ:	Not in compliance with the inventory.
Ontario Inventory:	Not in compliance with the inventory.
Taiwan Chemical Substance Inventory:	Not in compliance with the inventory.
Canada DSL Inventory List:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory

16. Other information, including date of preparation or last revision

Issue Date: 09/11/2019

Revision Information: No data available.

Version #: 1.0

Further Information: No data available.

Disclaimer: This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 778.00

Revision Date: March 26, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Starch

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

Product should be treated as a chemical and is not for consumption as it has been stored with other nonfood-grade chemicals.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Starch (Potato or Corn)	9005-84-9	Unspecified	Unspecified	

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water.

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up, place in sealed bag or container and dispose. Wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic Miscellaneous
Keep container tightly closed. Store in a cool, dry place.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Avoid contact with eyes. Wash hands thoroughly after handling.
Exposure guidelines: PEL 15 mg/m³ (as total dust)(OSHA); TLV 10 mg/m³ (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White amorphous powder. Odorless.
Soluble: Hot water

Melting point: 256-258 °C (decomposes)
Not for human consumption.

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers.
Shelf life: Indefinite, if kept dry.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Nuisance dust, an allergen.
Chronic effects: N.A.
Target organs: N.A.

ORL-RAT LD₅₀: N.A.
IHL-RAT LC₅₀: N.A.
SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Not regulated. Hazard class: N/A. UN number: N/A.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (232-686-4).

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 26, 2014

Safety Data Sheet

Starch

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Starch
Recommended Use: Science education applications
Synonyms: Amylum, Carbohydrate, Plant Starch
Distributor: Carolina Biological Supply Company, 2700 York Road, Burlington, NC 27215-3398
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

WARNING

May form combustible dust concentrations in air

GHS Classification:
Combustible Dust Category 1

Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Starch	9005-25-8	100

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Skin Contact: After contact with skin, wash immediately with plenty of water.
Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use media suitable to extinguish surrounding fire.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Avoid Dusting. May become explosive when dispersed in air. Fire or excessive heat may produce hazardous decomposition products.
Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section 8 of this MSDS. Avoid dusting. No special spill clean-up considerations. Collect and discard in regular trash.

Section 7 Handling and Storage

Handling: Keep away from sources of ignition - No smoking. Avoid creating and inhaling dust.
Storage: Keep container tightly closed in a cool, well-ventilated place.

Safety Data Sheet

Storage Code: Green - general chemical storage

Section 8 Protection Information

Chemical Name	ACGIH		OSHA PEL	
	(TWA)	(STEL)	(TWA)	(STEL)
Starch	10 mg/m ³ TWA	N/A	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)	N/A

Control Parameters

Engineering Measures:

Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

Personal Protective Equipment (PPE):

Lab coat, apron, eye wash, safety shower.

Respiratory Protection:

Respiratory protection may be required to avoid overexposure when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms.

Respirator Type(s):

None required where adequate ventilation is provided. If airborne concentrations are above the applicable exposure limits, use NIOSH/MSHA approved respiratory protection.

Eye Protection:

Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection:

Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves:

No information available

Section 9 Physical Data

Formula: See Section 3

Vapor Pressure: No data available

Molecular Weight: Variable

Evaporation Rate (BuAc=1): No data available

Appearance: White Powder

Vapor Density (Air=1): No data available

Odor: None

Specific Gravity: No data available

Odor Threshold: No data available

Solubility in Water: Soluble

pH: No data available

Log Pow (calculated): No data available

Melting Point: No data available

Autoignition Temperature: No data available

Boiling Point: No data available

Decomposition Temperature: No data available

Flash Point: No data available

Viscosity: No data available

Flammable Limits in Air: No data available

Percent Volatile by Volume: No data available

Section 10 Reactivity Data

Reactivity: No data available

No data available

Chemical Stability: Stable under normal conditions.

Stable under normal conditions.

Conditions to Avoid: None known.

None known.

Hazardous Polymerization: Will not occur

Will not occur

Section 11 Toxicity Data

Routes of Entry: Inhalation and ingestion.

Inhalation and ingestion.

Symptoms (Acute): No data available

No data available

Delayed Effects: No data available

No data available

Acute Toxicity:

Chemical Name

CAS Number

Oral LD50

Dermal LD50

Inhalation LC50

Starch

9005-25-8

Not applicable

Not applicable

Not applicable

Carcinogenicity:

Chemical Name

CAS Number

IARC

NTP

OSHA

Starch

9005-25-8

Not listed

Not listed

Not listed

Safety Data Sheet

Chronic Effects:

Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: No information available
Chronic: No information available

Section 12 Ecological Data

Overview: This material is not expected to be harmful to the ecology.
Mobility: No data
Persistence: No data
Bioaccumulation: No data
Degradability: No data
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
Starch	9005-25-8	Not applicable

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): Not Determined

Section 14 Transport Information

Ground - DOT Proper Shipping Name: Not regulated for transport by US DOT.
Air - IATA Proper Shipping Name: Not regulated for air transport by IATA.

Section 15 Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Starch	9005-25-8	No	No	No	No	No

Section 16 Additional Information

Revised: 04/15/2013

Replaces: None

Printed: 06-21-2013

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health

Safety Data Sheet

Starch, 1%

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Starch, 1%
Recommended Use: Science education applications
Synonyms: Starch solution
Distributor: Carolina Biological Supply Company
2700 York Road, Burlington, NC 27215
1-800-227-1150
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

WARNING



Not a dangerous substance according to GHS classification criteria. No known OSHA hazards.

GHS Classification:
Serious Eye Damage/Eye Irritation Category 2A

Acute Toxicity Dermal Contains 50 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Vapor Contains 50 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Dust/Mist Contains 50 % of the mixture consists of ingredient(s) of unknown toxicity

Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Starch	9005-25-8	50
Sodium Benzoate	532-32-1	50

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin Contact: After contact with skin, wash immediately with plenty of water.
Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use media suitable to extinguish surrounding fire.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: None Known
Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

Safety Data Sheet

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section 8 of this (M)SDS. No special spill clean-up considerations. Collect and discard in regular trash.

Section 7 Handling and Storage

Handling: Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Do not ingest or take internally.
Storage: Keep container tightly closed in a cool, well-ventilated place.
Storage Code: Green - general chemical storage

Section 8 Protection Information

Chemical Name	ACGIH		OSHA PEL	
	(TWA)	(STEL)	(TWA)	(STEL)
Starch	10 mg/m ³ TWA	N/A	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)	N/A
Sodium Benzoate	N/A	N/A	N/A	N/A

Control Parameters

Engineering Measures: Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.
Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.
Respiratory Protection: No respiratory protection required under normal conditions of use.
Respirator Type(s): None required where adequate ventilation is provided. If airborne concentrations are above the applicable exposure limits, use NIOSH/MSHA approved respiratory protection.
Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.
Skin Protection: Not normally considered a skin hazard. Where use can result in skin contact, practice good personal hygiene. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.
Gloves: Butyl rubber, Neoprene, Nitrile, Polyvinyl chloride

Section 9 Physical Data

Formula: see section 3
Molecular Weight: No data available
Appearance: Cloudy (milky) Liquid
Odor: None
Odor Threshold: No data available
pH: No data available
Melting Point: Estimated 0 C
Boiling Point: Estimated 100 C
Flash Point: > 100 C
Flammable Limits in Air: No data available N/A

Vapor Pressure: No data available
Evaporation Rate (BuAc=1): No data available
Vapor Density (Air=1): No data available
Specific Gravity: 1
Solubility in Water: Soluble
Log Pow (calculated): No data available
Autoignition Temperature: No data available
Decomposition Temperature: No data available
Viscosity: No data available
Percent Volatile by Volume: No data available

Section 10 Reactivity Data

Reactivity: Not generally reactive under normal conditions.
Chemical Stability: Stable under normal conditions.
Conditions to Avoid: None known.
Incompatible Materials: Strong oxidizing agents
Hazardous Polymerization: Will not occur

Section 11 Toxicity Data

Routes of Entry: Ingestion.
Symptoms (Acute): No data available
Delayed Effects: No data available

Safety Data Sheet

Acute Toxicity:				
Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Starch	9005-25-8			
Sodium Benzoate	532-32-1	Oral LD50 Rat 2100 mg/kg		

Carcinogenicity:				
Chemical Name	CAS Number	IARC	NTP	OSHA
Starch	9005-25-8	Not listed	Not listed	Not listed
Sodium Benzoate	532-32-1	Not listed	Not listed	Not listed

Chronic Effects:

Mutagenicity: No evidence of a mutagenic effect.

Teratogenicity: No evidence of a teratogenic effect (birth defect).

Sensitization: No evidence of a sensitization effect.

Reproductive: No evidence of negative reproductive effects.

Target Organ Effects:

Acute: No information available

Chronic: No information available

Section 12 Ecological Data

Overview:	This material is not expected to be harmful to the ecology.
Mobility:	No data
Persistence:	No data
Bioaccumulation:	No data
Degradability:	No data
Other Adverse Effects:	No data

Chemical Name	CAS Number	Eco Toxicity
Starch	9005-25-8	Not available
Sodium Benzoate	532-32-1	Aquatic LC50 (96h) Fathead Minnow > 100 MG/L Aquatic EC50 (48h) Daphnia < 650 MG/L

Section 13 Disposal Information

Disposal Methods:	Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s):	Not Determined

Section 14 Transport Information

Ground - DOT Proper Shipping Name:	Air - IATA Proper Shipping Name:
Not regulated for transport by US DOT.	Not regulated for air transport by IATA.

Section 15 Regulatory Information

TSCA Status:	All components in this product are on the TSCA Inventory.					
Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Starch	9005-25-8	No	No	No	No	No
Sodium Benzoate	532-32-1	No	No	No	No	No

Section 16 Additional Information

Revised: 10/13/2015 Replaces: 09/09/2015 Printed: 10-29-2015

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Safety Data Sheet

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health

Section 1 Chemical Product and Company Information



5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product STARCH, 1% INDICATOR SOLUTION

Synonyms Starch, Aqueous Solution

Section 2 Hazards Identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: Not classified
Pictograms: Not classified
Target organs: None known

GHS Classification: Not classified

GHS Label information:
Hazard statement(s): Not classified
Precautionary statement(s): Not classified

Supplemental information:

Do not breathe mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3 Composition / Information on ingredients

Chemical Name	CAS #	%	EINECS
Water	7732-18-5	98.9%	231-791-2
Starch, soluble	9005-84-9	1.0%	232-686-4
Methylparaben	99-76-3	0.5%	202-785-7

Section 4 First Aid Measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 7 Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Starch (9005-25-8)	TWA: 10 mg/m ³ (A4)	TWA: 15 mg/m ³ (Total dust)	TWA: 10 mg/m ³ (Total dust)

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Clear, colorless liquid. Odor: No odor. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: Approximately 0°C (32°F) (water) Boiling point: Approximately 100°C (212°F) (water) Flash point: Data not available	Evaporation rate (Water = 1): <1 Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: Data not available Vapor pressure (mm Hg): 14 (water) Vapor density (Air = 1): 0.7 (water) Relative density (Specific gravity): Approximately 1.0 (water) Solubility(ies): Complete in water.	Partition coefficient: Data not available Auto-ignition temperature: Data not available Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: Mixture Molecular weight: Mixture
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Section 10 Stability & Reactivity

Chemical stability: Stable
Conditions to avoid: Excessive temperatures which cause evaporation.
Incompatible materials: No data available.
Hazardous decomposition products: None.
Hazardous polymerization: Will not occur.

Section 11 Toxicological Information

Acute toxicity: Data not available
Skin corrosion/irritation: Data not available
Serious eye damage/irritation: Data not available
Respiratory or skin sensitization: Data not available
Germ cell mutagenicity: Data not available
Carcinogenicity: Data not available
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive toxicity: Data not available
STOT-single exposure: Data not available
STOT-repeated exposure: Data not available
Aspiration hazard: Data not available
Potential health effects:
Inhalation: None expected at this concentration.
Ingestion: Ingestion may cause stomach irritation.
Skin: No hazard known.
Eyes: Contact with eyes may cause irritation.
Signs and symptoms of exposure: To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.
Additional information: RTECS #: GM5090000 [Starch 9005-25-8]

Section 12 Ecological Information

Toxicity to fish: No data available
Toxicity to daphnia and other aquatic invertebrates: No data available
Toxicity to algae: No data available
Persistence and degradability: No data available
Mobility in soil: No data available
Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Bioaccumulative potential: No data available
PBT and vPvB assessment: No data available

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Regulatory Information

UN/NA number: Not applicable	Shipping name: Not Regulated	Reportable Quantity: No	Marine pollutant: No
Hazard class: Not applicable	Packing group: Not applicable		
Exceptions: Not applicable	2012 ERG Guide # Not applicable		

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Starch, soluble	Listed	Not listed	Not listed	Listed	Not listed	Not listed

Section 16 Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Section 1 Chemical Product and Company Information

80 Northwest Blvd.
Nashua, NH 03063
(800) 225-3739

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product	STARCH, CORN
Synonyms	Maize Starch

Section 2 Hazards Identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: Not classified
Pictograms: Not classified
Target organs: None known

GHS Classification: Not classified

GHS Label information:
Hazard statement(s): Not classified
Precautionary statement(s): Not classified

Supplemental information:

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Starch, corn	9005-25-8	100%	232-679-6

Section 4 First Aid Measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Dust dispersed in air becomes explosive when exposed to ignition sources.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 7 Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Starch, corn	TWA: 10 mg/m ³ (A4)	TWA: 15 mg/m ³ (Total dust)	TWA: 10 mg/m ³ (Total dust)

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Solid, white powder.	Evaporation rate (= 1): Data not available	Partition coefficient: Data not available
Odor: Bland odor.	Flammability (solid/gas): Data not available.	Auto-ignition temperature: 410°C (770°F) [cloud]
Odor threshold: Data not available.	Explosion limits: Lower / Upper: Data not available	Decomposition temperature: Data not available.
pH: Data not available.	Vapor pressure (mm Hg): Data not available	Viscosity: Data not available.
Melting / Freezing point: Data not available	Vapor density (Air = 1): Data not available	Molecular formula: (C ₆ H ₁₀ O ₅) _n
Boiling point: Data not available	Relative density (Specific gravity): 1.45-1.6	Molecular weight: (162.15) _n
Flash point: Data not available	Solubility(ies): Negligible in water.	

Section 10 Stability & Reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures, heat, sparks, open flame and other sources of ignition. Avoid practices which produce dust.

Incompatible materials: No data available.

Hazardous decomposition products: None.

Section 11 Toxicological Information

Acute toxicity: Data not available

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Inhalation of high concentrations may cause unpleasant deposits in the nasal passages.

Ingestion: Ingestion may cause stomach irritation.

Skin: No hazard known.

Eyes: Contact with eyes may cause irritation.

Signs and symptoms of exposure: See Potential health effects above.

Additional information: RTECS #: GM5090000

Section 12 Ecological Information

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available **Bioaccumulative potential:** No data available

Mobility in soil: No data available **PBT and vPvB assessment:** No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information

UN/NA number: Not applicable	Shipping name: Not Regulated	Reportable Quantity: No	Marine pollutant: No
Hazard class: Not applicable	Packing group: Not applicable		
Exceptions: Not applicable	2012 ERG Guide # Not applicable		

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Starch, corn	Listed	Not listed	Not listed	Listed	Not listed	Uncontrolled product

Section 16 Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Section 1 Chemical Product and Company Information

5100 West Henrietta Rd
 PO Box 92912
 Rochester, NY 14692-9012
 Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
 For laboratory use only.
 Not for drug, food or household use.

Product STARCH, SOLUBLE
Synonyms Amyiodextrin ; Amylogen

Section 2 Hazards Identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: Not classified
Pictograms: Not classified
Target organs: None known

GHS Classification: Not classified

GHS Label information:
Hazard statement(s): Not classified
Precautionary statement(s): Not classified

Supplemental information:

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Starch, soluble	9005-84-9	100%	232-686-4

Section 4 First Aid Measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Dust dispersed in air becomes explosive when exposed to ignition sources.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 7 Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Starch (9005-25-8)	TWA: 10 mg/m ³ (A4)	TWA: 15 mg/m ³ (Total dust)	TWA: 10 mg/m ³ (Total dust)

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Solid, white powder.	Evaporation rate (= 1): Data not available	Partition coefficient: Data not available
Odor: Bland odor.	Flammability (solid/gas): Data not available.	Auto-ignition temperature: 410°C (770°F) [cloud]
Odor threshold: Data not available.	Explosion limits: Lower / Upper: Data not available	Decomposition temperature: Data not available.
pH: Data not available.	Vapor pressure (mm Hg): Data not available	Viscosity: Data not available.
Melting / Freezing point: Data not available	Vapor density (Air = 1): Data not available	Molecular formula: (C ₆ H ₁₀ O ₅) _n
Boiling point: Data not available	Relative density (Specific gravity): 1.45	Molecular weight: (162.15) _n
Flash point: Data not available	Solubility(ies): 5 g/100 ml water @ 20°C	

Section 10 Stability & Reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures, heat, sparks, open flame and other sources of ignition. Avoid practices which produce dust.

Incompatible materials: No data available.

Hazardous decomposition products: None.

Section 11 Toxicological Information

Acute toxicity: Data not available

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Inhalation of high concentrations may cause unpleasant deposits in the nasal passages.

Ingestion: Ingestion may cause stomach irritation.

Skin: No hazard known.

Eyes: Contact with eyes may cause irritation.

Signs and symptoms of exposure: See Potential health effects above.

Additional information: RTECS #: GM5090000 [Starch 9005-25-8]

Section 12 Ecological Information

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available **Bioaccumulative potential:** No data available

Mobility in soil: No data available **PBT and vPvB assessment:** No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information

UN/NA number: Not applicable **Shipping name:** Not Regulated

Hazard class: Not applicable **Packing group:** Not applicable **Reportable Quantity:** No **Marine pollutant:** No

Exceptions: Not applicable **2012 ERG Guide #:** Not applicable

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERCLA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Starch, soluble	Listed	Not listed	Not listed	Listed	Not listed	Not listed

Section 16 Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.



Fisher Scientific

Part of Thermo Fisher Scientific

SAFETY DATA SHEET

Creation Date 26-Sep-2009

Revision Date 07-Aug-2014

Revision Number 1

1. Identification

Product Name Starch, Soluble (Certified ACS)

Cat No. : S516-100; S516-500

Synonyms amyloextrin; starch; a-Amyloextrin

Recommended Use Laboratory chemicals.

Uses advised against No Information available

Details of the supplier of the safety data sheet

Company

Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number

CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification

Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Based on available data, the classification criteria are not met

Label Elements

None required

Hazards not otherwise classified (HNOC)

None identified

3. Composition / information on ingredients

Component	CAS-No	Weight %
Soluble Starch	9005-84-9	100

4. First-aid measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
Skin Contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Obtain medical attention.
Inhalation	Remove from exposure, lie down. Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. If symptoms arise, call a physician.
Ingestion	Clean mouth with water. Do not induce vomiting. Get medical attention.
Most important symptoms/effects Notes to Physician	No information available. Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	Water spray. Carbon dioxide (CO ₂). Dry chemical. chemical foam.
Unsuitable Extinguishing Media	No information available
Flash Point	No information available
Method -	No information available
Autoignition Temperature	No information available
Explosion Limits	
Upper	No data available
Lower	No data available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products

Carbon monoxide (CO) Carbon dioxide (CO₂)

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

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Health	Flammability	Instability	Physical hazards
1	1	0	N/A

6. Accidental release measures

Personal Precautions	Use personal protective equipment.
Environmental Precautions	Should not be released into the environment.

Methods for Containment and Clean Up Sweep up or vacuum up spillage and collect in suitable container for disposal.

7. Handling and storage

Handling	Avoid contact with skin and eyes. Do not breathe dust. Do not breathe vapors or spray mist. Wash hands before breaks and immediately after handling the product. Minimize dust generation and accumulation.
Storage	Keep in a dry, cool and well-ventilated place. Keep container tightly closed.

8. Exposure controls / personal protection

Exposure Guidelines	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
Engineering Measures	Ensure adequate ventilation, especially in confined areas.
Personal Protective Equipment	
Eye/face Protection	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin and body protection	Wear appropriate protective gloves and clothing to prevent skin exposure.
Respiratory Protection	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Powder Solid
Appearance	White
Odor	Odorless
Odor Threshold	No information available
pH	5.0-7.0 2% aq. solution
Melting Point/Range	256 - 258 °C / 492.8 - 496.4 °F
Boiling Point/Range	No information available
Flash Point	No information available
Evaporation Rate	No information available
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	No information available
Relative Density	1.0384
Solubility	No information available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition temperature	No information available
Viscosity	No information available
Molecular Formula	(C6 H10 O5) _n
Molecular Weight	162.067

10. Stability and reactivity

Reactive Hazard	None known, based on information available
Stability	Stable under normal conditions.
Conditions to Avoid	Incompatible products.
Incompatible Materials	Strong oxidizing agents
Hazardous Decomposition Products	Carbon monoxide (CO), Carbon dioxide (CO ₂)
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information No acute toxicity information is available for this product

Component Information
Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation May cause eye irritation

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Soluble Starch	9005-84-9	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure None known

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects, both acute and delayed No information available

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Do not empty into drains.

Persistence and Degradability No information available

Bioaccumulation/ Accumulation No information available.

Mobility No information available.

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. Regulatory information

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Soluble Starch	X	X	-	232-686-4	-		X	X	X	X	X

Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313 Not applicable

SARA 311/312 Hazardous Categorization

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act Not applicable

Clean Air Act Not applicable

OSHA Occupational Safety and Health Administration
Not applicableCERCLA
Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals

State Right-to-Know Not applicable

U.S. Department of Transportation

Reportable Quantity (RQ):	N
DOT Marine Pollutant	N
DOT Severe Marine Pollutant	N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.**Other International Regulations**

Mexico - Grade No information available

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class Non-controlled

16. Other information

Prepared By	Regulatory Affairs Thermo Fisher Scientific Email: EMSDS.RA@thermofisher.com
Creation Date	26-Sep-2009
Revision Date	07-Aug-2014
Print Date	07-Aug-2014
Revision Summary	This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of SDS

MATERIAL SAFETY DATA SHEET

MSDS No.: SS0990
Revision Date: October 4, 2013
Approved by: James A. Bertsch

MSDS No.: SS0990

Section 1 Chemical Product and Company Information

Product: STEARIC ACID
Synonyms: Octadecanoic Acid

CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300

Section 2 Hazards Identification

Emergency Overview:

CAUTION!
MAY CAUSE IRRITATION,
Avoid contact with skin and eyes. Do not inhale dusts.
Target organs: None known.

0 = Minimal	Health	1
1 = Slight	Fire	1
2 = Moderate	Reactivity	1
3 = Serious	Contact	2
4 = Severe		

HMIS *

Section 3 Composition Information on Ingredients

Chemical Name	CAS #	%	TLV Units
Stearic acid	57-11-4	100%	None established (ACGIH 2001)

Section 4 First Aid Measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN CONTACT: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

General Information: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Dust dispersed in air becomes explosive when exposed to ignition source. Melted stearic acid should be handled like a grease fire with knowledge that it can float on water and spread.

Extinguishing Media: Carbon dioxide, dry chemical, water spray, alcohol foam.

Flash Point: 190°C (374°F) COC

Autoignition temperature: N/A

Explosion Limits: Lower: N/A Upper: N/A

Section 6 Accidental Release Measures

Use proper personal protective equipment as indicated in Section 8. Remove all sources of ignition. Provide adequate ventilation. Recover for use if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water. Avoid runoff into storm sewers and ditches which lead to waterways.

0 = Minimal	
1 = Slight	
2 = Moderate	
3 = Serious	

None listed.

NFPA

Section 7 Handling & Storage

Read label on container before using. Do not wear contact lenses when working with chemicals. Keep container tightly closed. For laboratory use only. Not for drug, food or household use. Keep out of reach of children.
Handling: Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid ingestion. Do not inhale dusts. Wash thoroughly after handling. Remove and wash clothing before reuse.
Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

GENERAL STORAGE CODE GREEN

Section 8 Exposure Controls / Personal Protection

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.
Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Physical state: Solid
Appearance: White flakes or powder.
Odor: Tallow-like odor.
pH: N/A
Vapor pressure (mm Hg): N/A
Vapor Density (Air = 1): N/A
Evaporation rate (= 1): N/A
Viscosity: N/A

Section 10 Stability & Reactivity

Chemical stability: Stable
Conditions to avoid: Avoid excessive temperatures. Slowly volatilizes @ 90-100°C.
Incompatibilities with other materials: Strong oxidizers and bases.
Hazardous decomposition products: Oxides of carbon.

Section 11 Toxicological Information

Effects of overexposure: May cause irritation of the upper respiratory tract. May cause irritation of the eyes. Exercise appropriate procedure to minimize potential hazards.

RTECS #: W12900000
ORL-RAT LD50: N/A
INV-MUS LD50: 23 mg/kg
INV-RAT LD50: 2.5 mg/kg

Section 12 Ecological Information

Data not yet available.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalytic-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information

UNNA number: N/A

Shipping name: Not Regulated.

Hazard class: N/A

Packing group: N/A

Exceptions: N/A

Section 15 Regulatory Information

TSCA-listed: EINECS-listed (200-313-4)

Section 16 Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Hazardous Materials Industrial Standards.



Stroke & Coat Glazes

SECTION 1: IDENTIFICATION OF SUBSTANCE AND SUPPLIER

Product Identification: Stroke & Coat® Glazes

Product Usage: Glazing of ceramic ware

Product Identifier Codes:

Opaque Glazes: SC-1 Pink-A-Boo, SC-2 Melon-choly, SC-3 Wine About It, SC-4 Salsa, SC-5 Tiger Tail, SC-6 Sunkissed, SC-7 Leapin' Lizard, SC-8 Just Froggy, SC-9 Jaded, SC-10 Teal Next Time, SC-11 Blue Yonder, SC-12 Moody Blue, SC-13 Grapel, SC-14 Java Bean, SC-15 Tuxedo, SC-16 Cotton Tail, SC-17 Cheeky Pinky, SC-18 Rosey Posey, SC-20 Birthday Suit, SC-22 Carrot Top, SC-23 Jack O' Lantern, SC-24 Dandelion, SC-25 Crackerjack Brown, SC-26 Green Thumb, SC-27 Sour Apple, SC-28 Blue Isle, SC-29 Blue Grass, SC-30 Blue Dawn, SC-31 The Blues, SC-32 Bluebeard, SC-33 Fruit Of The Vine, SC-34 Down To Earth, SC-35 Gray Hare, SC-36 Irish Luck, SC-37 Ivory Tower, SC-39 Army Surplus, SC-40 Blueberry Hill, SC-41 Brown Cow, SC-42 Butter Me Up, SC-43 Lettuce Alone, SC-45 My Blue Heaven, SC-46 Rawhide, SC-48 Camel Back, SC-50 Orange Ya Happy, SC-51 Poo Bear, SC-52 Toad-ily Green, SC-53 Purple Haze, SC-54 Vanilla Dip, SC-55 Yella Bout It, SC-58 501 Blues, SC-60 Silver Lining, SC-63 Popeye's Favorite, SC-65 Peri-Twinkle, SC-70 Pink-A-Dot, SC-71 Purple-licous, SC-72 Grape Jelly, SC-73 Candy Apple Red, SC-74 Hot Tamale, SC-75 Orange-A-Peel, SC-76 Cara-been Blue, SC-77 Glo-Worm, SC-78 Lime Light, SC-79 It's Sage, SC-80 Basketball, SC-81 Cinnamon Stix, SC-82 Tuscan Red, SC-83 Tip Taupe, SC-84 Dee John, SC-85 Orkid, SC-86 Old Lace, SC-87 Ruby Slippers, SC-88 Tu Tu Tango, SC-89 Cute Pie Coral, SC-90 Elephant Ears, SC-91 Seabreeze, SC-92 Cafe Ole, SC-93 Honeydew List, SC-94 Curry Around, SC-95 Pinkie Swear, SC-96 Aqu-ward, SC-97 Cant-elope

Manufacturer:	Coloramics, LLC (D.B.A. Mayco Colors)
	4077 Weaver Court South
	Hilliard, Ohio 43026
	United States of America
	(614) 876-1171

IN CASE OF EMERGENCY PLEASE CONTACT YOUR REGIONAL/LOCAL POISON CONTROL CENTER

SECTION 2: HAZARDS IDENTIFICATION

Classification of mixture: Non-classified (1999/45/EEC)

Each glaze family is a mixture of ceramic material containing, water, non-leaded frits, clay, and other minerals

and color pigments. Contains potential carcinogens: Crystalline silica (quartz), as an inhalation hazard, may be present if:

- Unfired, dried glaze is excessively handled and allowed to create dust.
- Mist is present after spray application

A few pigments may contain a very small amount of zirconium encapsulated cadmium, titanium dioxide, and other metals. Other ingredients present have no known acute toxicity.

GHS Label Elements: None Required

Other Hazards: None Known

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Each glaze family contain proprietary mixtures of ceramic materials (listed below) and color pigments. The Stroke & Coat® glaze line is classified as non-hazardous.

Ingredients	CAS #	Ranges of Percentages
Water	7732-18-5	42.1% - 47.4%
Frit	65997-18-4	34.5% - 40.2%
Clay/Kaolin	1332-58-7	4.6% - 5.3%
Silica (Quartz)	14808-60-7	4.6% - 5.3%
Zinc Oxide	1314-13-2	0% - 0.7%
Zirconium Silicate (Zr Si O ₄)	14940-68-2	0% - 8.7%
Bentonite	1302-78-9	0.6% - 0.7%
Carboxymethylcellulose	9004-34-2	0.7% - 0.8%
Proxel	75037-67-1	0.1%
Pigments	varies	varies

SECTION 4: FIRST-AID MEASURES

- **Inhalation:** May cause irritation. Remove from exposure.
- **Skin:** May cause irritation. Wash skin with soap and water.
- **Eyes:** May cause irritation. Flush eyes with large quantities of water for at least 15 minutes. If irritation persists after washing, contact a physician.
- **Ingestion:** Contact a physician.

Important Symptoms/Effects: None Known

Immediate Medical Attention/Special Treatment: None Known

SECTION 5: FIRE-FIGHTING MEASURES

- **Suitable Extinguishing Media:** None
- **Specific Hazards Arising From Chemical:** None
- **Special Protective Equipment and Precautions for Fire Fighters:** None

SECTION 6: ACCIDENTAL RELEASE MEASURES

- **Personal Precautions, Protective Equipment and/or Emergency Procedures:** None
- **Environmental Precautions:** None
- **Methods and Materials for Containment and Clean-Up:** Wipe/Mop spill area and rinse with water

SECTION 7: HANDLING AND STORAGE

- **Precautions for Safe Handling:** Ventilation - local exhaust if spray application is used
- **Work/Hygienic Practices:** Food, beverages, and smoking materials should not be in the work area. Wash thoroughly before eating, drinking, smoking, or applying cosmetics.
- **Conditions for Safe Storage, Including Incompatibilities:** None

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients	CAS #	PEL	TLV
Silica (Quartz)	14808-60-7		0.025 mg/m ³
Zinc Oxide	1314-13-2	5.0 mg/m ³	2.0 mg/m ³

Remaining main glaze ingredients do not have formal Exposure Limits. Some pigments contain metals that have exposure limits (Co, TiO₂, Cu, Cr, Mn) but are used in low levels.

These glazes are non-hazardous liquid mixtures of ceramic materials containing, water, non-lead frits, clay, and other minerals and color pigments. These mixtures have no TLV or PEL.

- **Engineer Control:** Adequate ventilation (local exhaust) if spray application is used.
- **Respiratory Protection:** Use a NIOSH approved respirator if spray application is used.
- **Protective Gloves:** Not normally needed.
- **Eye Protection:** Wear appropriate eye protection or safety glasses to keep mist out of eyes if spray application is used.
- **Personal Protective Clothing or Equipment:** Wear appropriate clean, protective clothing such as, but not limited to, overalls, smocks, and aprons.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colored and/or Clear Liquid Mixtures
Odor/Odor Threshold:	Negligible
PH:	N/A
Boiling Point/Range:	N/A
Freezing point:	32°F
Flash Point:	None
Vapor Pressure:	N/A
Vapor Density:	N/A
Flammability:	None
Evaporation Rate:	None
Upper/Lower Explosive Limits:	None
Partition Coefficient (octanol/water):	N/A
Relative Density:	N/A
Solubility in Water:	Partial
Decompositional Temperature:	None
Viscosity:	N/A
Auto ignition temperature:	None

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	None Known
Chemical Stability:	Stable
Possibility of Hazardous Reactions:	None Known
Conditions to Avoid:	Fumes from firing in kiln; Mist created from spray application.
Incompatible Material:	None Known
Hazardous Decomposition or By-Products:	None Known

SECTION 11: TOXICOLOGY INFORMATION

Primary Route(s) of Entry: Dermal, Inhalation.

Hazard to Humans: None during normal use. The highest threat of inhalation exists during the excessive handling of dried, unfired glazed ware and/or during spray application.

Acute Toxicity: N/A	Carcinogenicity: N/A
Skin Corrosion/Irritation: N/A	Reproductive Toxicity: N/A
Serious Eye Damage/Irritation: N/A	STOT-Single Exposure: N/A

Respiratory/Skin Sensitization: N/A

STOT-Repeated Exposure: N/A

Germ Cell Mutagenicity: N/A

Aspiration Hazard: N/A

Additional information:

These mixtures contain silica, a known carcinogen. Inhalation is the route of entry into the body that can lead to the development of Silicosis.

These water-based, premixed products should be non-toxic during recommended use.

Some of the pigments may contain small amounts of various forms of metals (Sn, Mn, TiO₂, Cu, Zr, V, Fe, Co, Cr, Ni, Cd), some of which are considered carcinogenic. The metals in pigments may be in form of frits, spinel or formed from high temperature calcination that may have a different bioavailability than the metal itself. Silica and pigments in the glaze should be non-toxic during recommended use.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:	None
Biodegradability:	No
Mobility in Soil:	No
Persistence:	Yes
Bioaccumulation:	No
Other Adverse Effects:	None

SECTION 13: DISPOSAL CONSIDERATIONS

Follow local, state and federal regulations.

SECTION 14: TRANSPORTATION INFORMATION

Product Identifier: Non-Hazardous Mixtures

UN Shipping Name: N/A

UN Number: None

Environmental Hazard: None

Packing Group: None

Transportation Hazard Class: N/A

Special Precautions: None

SECTION 15: REGULATORY INFORMATION

Federal, State and Local regulations not provided elsewhere in the SDS:

National Regulations:

United States:

- TSCA: all components of these products are on the US TSCA Inventory
- SARA Section 313 Toxic Chemicals: None
- IARC, OSHA and NTP: Silica (Quartz), Titanium Dioxide, Cobalt, Nickel and Chromium are listed on the carcinogen list.

State Regulations:

California

- Proposition 65: Silica (Quartz), Titanium Dioxide, Cobalt, Nickel and Chromium are listed on the carcinogen list.

Chemical Safety Assessment:

Conforms to ASTM D 4236 This material has been evaluated under the provisions of LHAMA (Labeling of Hazardous Art Material Act). This product is judged to be non-toxic and non-flammable under proposed use conditions. No special warning is required under the provisions of LHAMA or California Proposition 65 during use.

SECTION 16: ADDITIONAL INFORMATION

Mayco Glazes do not contain and products and/or ingredients derived from nuts, peanuts, eggs, milk, or gluten. Mayco Glazes do not contain latex.

This information is furnished with out warranty, representation, inducement or license of any kind, except that it is accurate to the best of knowledge of COLORAMICS, LLC or obtained from sources believed to be accurate.

COLORAMICS, LLC does not assume any legal responsibility for use or reliance on same. Customers are encouraged to conduct their own tests before using any product. Read the product label.

Acronyms used in this SDS:

- CAS #: Chemical Abstracts Service Number
- TSCA: Toxic Substances Control Act
- SARA: Superfund Amendments and Reauthorization Act
- IARC: International Agency for Research on Cancer
- OSHA: Occupational Safety and Health Administration
- NTP: National Toxicology Program
- PEL: Permissible Exposure Limit
- TLV: Threshold Limit Values

Prepared:	July 17, 2014
Supersedes:	November 4, 2010



5100 West Henrietta Rd
 PO Box 92912
 Rochester, NY 14692-9012
 Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
 For laboratory use only.
 Not for drug, food or household use.

Product	STRONTIUM CHLORIDE, HEXAHYDRATE
Synonyms	None listed

Signal word: DANGER
Pictograms: GHS05
Target organs: None known



GHS Classification:
 Eye damage (Category 1)

GHS Label information: Hazard statement:
 H318: Causes serious eye damage.

Precautionary statement:
 P280: Wear protective gloves/protective clothing/eye protection/face protection.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.
 Remove contact lenses, if present and easy to do. Continue rinsing.
 P310: Immediately call a POISON CENTER or doctor.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Chemical Name	CAS #	%	EINECS
Strontium chloride	10025-70-4	100%	233-971-6 (anhydrous)

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 2 Hazardous Ingredients

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 3 Exposure Limits and Control Measures

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Strontium chloride	Not established	Not established	Not established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 4 Physical and Chemical Properties

Appearance: Solid, white crystals Odor: No odor Odor threshold: Data not available pH: Data not available Melting / Freezing point: 868°C (1594°F) Boiling point: Decomposes Flash point: Data not available	Evaporation rate (= 1): Data not available Flammability (solid/gas): Data not available Explosion limits: Lower / Upper: Data not available Vapor pressure (mm Hg): Negligible Vapor density (Air = 1): Data not available Relative density (Specific gravity): 1.933 Solubility(ies): Soluble in water	Partition coefficient: Data not available Auto-ignition temperature: Data not available Decomposition temperature: Data not available Viscosity: Data not available Molecular formula: SrCl ₂ ·6H ₂ O Molecular weight: 266.62
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Section 5 Stability and Reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures and heat. Effloresces in air and deliquesces in moist air.

Incompatible materials: None known.

Hazardous decomposition products: May release corrosive hydrogen chloride.

Section 6 Toxicological Information

Acute toxicity: Data not available

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Eyes-rabbit - Severe irritant.

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: May cause irritation of the respiratory tract. Symptoms may include coughing and shortness of breath.

Ingestion: Large oral doses may cause irritation of the gastrointestinal tract.

Skin: May cause irritation with redness and pain.

Eyes: May cause irritation with redness and pain.

Signs and symptoms of exposure: Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: WK8575000

Section 7 Environmental Fate

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 8 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 9 Physical and Chemical Properties

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Marine pollutant: No

Exceptions: Not applicable

2012 ERG Guide # Not applicable

Section 10 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERCLA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Strontium chloride	Listed	Not listed	Not listed	Listed	Not listed	Not listed

Section 11 Other Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 786.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Strontium Nitrate

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Oxidizing solids (Category 2). May intensify fire; oxidizer (H272). Keep away from heat, sparks, open flames, and hot surfaces. No smoking (P210).

Hazard class: Acute toxicity, oral (Category 4). Harmful if swallowed (H302). Do not eat, drink or smoke when using this product (P270).

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2A). Causes skin and serious eye irritation (H315+H319).

Hazard class: Specific target organ toxicity, single exposure; respiratory tract irritation (Category 3). May cause respiratory irritation (H335). Avoid breathing dust or fumes (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Strontium nitrate	10042-76-9	Sr(NO ₃) ₂	211.63	

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.

If on skin: Wash with plenty of water (P302+P352). **If skin irritation occurs:** Get medical advice or attention (P332+P313).

If swallowed: Rinse mouth. Call a POISON CENTER or physician if you feel unwell (P302+P301+P312).

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

Strong oxidizer. Fire and explosion risk when in contact with combustible materials.

When heated to decomposition, may emit toxic fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher.

NFPA CODE
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Sweep up, place in sealed bag or container and dispose. Ventilate area and wash spill site after material pickup is complete. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #3. Store with amides, nitrates, nitrites and azides. Store in a cool, dry place. Keep container tightly closed (P233). Keep and store away from clothing and combustible materials (P220). Use only in a hood or well-ventilated area (P271). Take any precautions to avoid mixing with combustibles (P221).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White powder. Odorless. Melting point: 570 °C
Soluble: Water. Slightly in absolute alcohol. Specific gravity: 2.98

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with reducing agents, strong acids, and combustible materials.
Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Irritant. ORL-RAT LD₅₀: 2750 mg/kg
Chronic effects: N.A. IHL-RAT LC₅₀: N.A.
Target organs: N.A. SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Strontium Nitrate; Hazard class: 5.1, Oxidizer; UN number: UN1507

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (233-131-9). RCRA code D001.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 21, 2014



5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product STRONTIUM NITRATE

Synonyms None listed

Signal word: DANGER

Pictograms: GHS03 / GHS07

Target organs: Liver, Kidneys, Blood, Heart, Spleen, Central nervous system, Lungs



GHS Classification:

Oxidizing solid (Category 2)
Acute toxicity, oral (Category 4)
Skin irritation (Category 2)
Eye irritation (Category 2A)
STOT-SE (Category 3)

GHS Label information: Hazard statement:

H272: May intensify fire; oxidizer.
H302: Harmful if swallowed.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.

Precautionary statement:

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P220: Keep away from clothing/incompatible/combustible materials.
P221: Take any precaution to avoid mixing with combustibles/acids/oxidizers.
P261: Avoid breathing dust.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P370+P378: In case of fire: Use water to extinguish.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352: IF ON SKIN: Wash with plenty of water and soap.
P332+P313: If skin irritation occurs: Get medical attention.
P362+P364: Take off contaminated clothing and wash it before reuse.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists: Get medical attention.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312: Call a POISON CENTER or doctor if you feel unwell.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.
P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Chemical Name	CAS #	%	EINECS
Strontium nitrate	10042-76-9	100%	233-131-9

INGESTION: HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Suitable Extinguishing Media: Use water. Do not use dry chemicals or foams. CO₂ or Halon® may provide limited control.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Safety Data Sheet



1. Identification

Product Name:	STRUST +SSPR 6PK GLOSS SAND	Revision Date:	4/9/2019
Product Identifier:	7771830	Supercedes Date:	2/20/2019
Recommended Use:	Topcoat/Aerosols		
Supplier:	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA	Manufacturer:	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA
Preparer:	Regulatory Department		
Emergency Telephone:	24 Hour Hotline: 847-367-7700		

2. Hazard Identification

Classification

Symbol(s) of Product



Signal Word

Danger

Possible Hazards

31% of the mixture consists of ingredient(s) of unknown acute toxicity.

GHS HAZARD STATEMENTS

Carcinogenicity, category 1B	H350	May cause cancer.
Compressed Gas	H280	Contains gas under pressure; may explode if heated.
Eye Irritation, category 2A	H319	Causes serious eye irritation.
Flammable Aerosol, category 1	H222	Extremely flammable aerosol.
Germ Cell Mutagenicity, category 1B	H340	May cause genetic defects.
STOT, repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
STOT, single exposure, category 3, NE	H336	May cause drowsiness or dizziness.

GHS LABEL PRECAUTIONARY STATEMENTS

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P337+P313	If eye irritation persists: Get medical advice/attention.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P410+P403	Protect from sunlight. Store in a well-ventilated place.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C / 122°F.
P501	Dispose of contents/container in accordance with local, regional and national regulations.

3. Composition / Information On Ingredients

HAZARDOUS SUBSTANCES

<u>Chemical Name</u>	<u>CAS-No.</u>	<u>Wt.% Range</u>	<u>GHS Symbols</u>	<u>GHS Statements</u>
Acetone	67-64-1	10-25	GHS02-GHS07	H225-319-332-336
Propane	74-98-6	10-25	GHS04	H280
n-Butyl Acetate	123-86-4	10-25	GHS02-GHS07	H226-336
n-Butane	106-97-8	2.5-10	GHS04	H280
Titanium Dioxide	13463-67-7	2.5-10	Not Available	Not Available
Xylenes (o-, m-, p- isomers)	1330-20-7	2.5-10	GHS02-GHS07	H226-315-319-332
Barium Sulfate	7727-43-7	2.5-10	GHS07	H332
Propylene Glycol Monobutyl Ether	5131-66-8	1.0-2.5	GHS07	H302-315-319
Ethylbenzene	100-41-4	1.0-2.5	GHS02-GHS07- GHS08	H225-304-332-351-373
Solvent Naphtha, Light Aromatic	64742-95-6	0.1-1.0	GHS07-GHS08	H304-332-340-350

4. First-Aid Measures

FIRST AID - EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed.

FIRST AID - SKIN CONTACT: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

FIRST AID - INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention. Do NOT use mouth-to-mouth resuscitation. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

FIRST AID - INGESTION: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention. If swallowed, get medical attention.

5. Fire-Fighting Measures

EXTINGUISHING MEDIA: Alcohol Film Forming Foam, Carbon Dioxide, Dry Chemical, Dry Sand, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: FLASH POINT IS LESS THAN 20°F. EXTREMELY FLAMMABLE LIQUID AND VAPOR! Water spray may be ineffective. Closed containers may explode when exposed to extreme heat due to buildup of steam. Closed containers may explode when exposed to extreme heat. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Perforation of the pressurized container may cause bursting of the can. No unusual fire or explosion hazards noted.

SPECIAL FIREFIGHTING PROCEDURES: Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion. Full protective equipment including self-contained breathing apparatus should be used. Evacuate area and fight fire from a safe distance. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.

Special Fire and Explosion Hazard (Combustible Dust): No Information

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers. Ventilate area, isolate spilled material, and remove with inert absorbent. Dispose of contaminated absorbent, container, and unused contents in accordance with local, state, and federal regulations.

7. Handling and Storage

HANDLING: Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and launder before reuse. Use only in a well-ventilated area. Use only with adequate ventilation. Follow all SDS and label precautions even after container is emptied because it may retain product residues. Avoid breathing fumes, vapors, or mist. Avoid contact with eyes, skin and clothing.

STORAGE: Store in a dry, well ventilated place. Keep container tightly closed when not in use. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Contents under pressure. Do not store above 120 ° F. Store large quantities in buildings designed and protected for storage of flammable aerosols. Keep away from heat, sparks, flame and sources of ignition. Contents under pressure. Do not expose to heat or store above 120 ° F. Avoid excess heat. Product should be stored in tightly sealed containers and protected from heat, moisture, and foreign materials.

Advice on Safe Handling of Combustible Dust: No Information

8. Exposure Controls / Personal Protection

Chemical Name	CAS-No.	Weight % Less Than	ACGIH TLV- TWA	ACGIH TLV- STEL	OSHA PEL-TWA	OSHA PEL- CEILING
Acetone	67-64-1	25.0	250 ppm	500 ppm	1000 ppm	N.E.
Propane	74-98-6	20.0	N.E.	N.E.	1000 ppm	N.E.
n-Butyl Acetate	123-86-4	15.0	50 ppm	150 ppm	150 ppm	N.E.
n-Butane	106-97-8	10.0	N.E.	1000 ppm	N.E.	N.E.
Titanium Dioxide	13463-67-7	10.0	10 mg/m3	N.E.	15 mg/m3	N.E.
Xylenes (o-, m-, p- isomers)	1330-20-7	5.0	100 ppm	150 ppm	100 ppm	N.E.
Barium Sulfate	7727-43-7	5.0	5 mg/m3	N.E.	15 mg/m3	N.E.
Propylene Glycol Monobutyl Ether	5131-66-8	5.0	N.E.	N.E.	N.E.	N.E.
Ethylbenzene	100-41-4	5.0	20 ppm	N.E.	100 ppm	N.E.
Solvent Naphtha, Light Aromatic	64742-95-6	1.0	N.E.	N.E.	N.E.	N.E.

PERSONAL PROTECTION

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment. Provide general dilution of local exhaust ventilation in volume and pattern to keep TLV of hazardous ingredients below acceptable limits. Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

SKIN PROTECTION: Use gloves to prevent prolonged skin contact. Use impervious gloves to prevent skin contact and absorption of this material through the skin. Nitrile or Neoprene gloves may afford adequate skin protection.

EYE PROTECTION: Use safety eyewear designed to protect against splash of liquids.

OTHER PROTECTIVE EQUIPMENT: Refer to safety supervisor or industrial hygienist for further guidance regarding types of personal protective equipment and their applications. Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application.

HYGIENIC PRACTICES: Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing immediately and launder before reuse.

Engineering Measures for Combustible Dust: No Information

9. Physical and Chemical Properties

Appearance:	Aerosolized Mist	Physical State:	Liquid
Odor:	Solvent Like	Odor Threshold:	N.E.
Relative Density:	0.808	pH:	NE
Freeze Point, °C:	ND	Viscosity:	N.D.
Solubility in Water:	Slight	Partition Coefficient, n-octanol/ water:	N.D.
Decomposition Temp., °C:	N.D.	Explosive Limits, vol%:	0.9 - 13.0
Boiling Range, °C:	-37 - 537	Flash Point, °C:	-96
Flammability:	Supports Combustion	Auto-ignition Temp., °C:	N.D.
Evaporation Rate:	Faster than Ether	Vapor Pressure:	N.D.
Vapor Density:	Heavier than Air		

(See "Other information" Section for abbreviation legend)

10. Stability and Reactivity

CONDITIONS TO AVOID: Avoid temperatures above 120°F (49°C). Avoid all possible sources of ignition.

INCOMPATIBILITY: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

HAZARDOUS DECOMPOSITION: By open flame, carbon monoxide and carbon dioxide. When heated to decomposition, it emits acrid smoke and irritating fumes. Contains solvents which may form carbon monoxide, carbon dioxide, and formaldehyde.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

11. Toxicological Information

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Causes Serious Eye Irritation

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Substance may cause slight skin irritation. May cause skin irritation. Allergic reactions are possible. Prolonged or repeated contact may cause skin irritation.

EFFECTS OF OVEREXPOSURE - INHALATION: Harmful if inhaled. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Avoid breathing fumes, spray, vapors, or mist. High vapor concentrations are irritating to the eyes, nose, throat and lungs. Prolonged or excessive inhalation may cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Harmful if swallowed.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis, and blurred vision) and/or damage. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage. IARC lists Ethylbenzene as a possible human carcinogen (group 2B). Contains Titanium Dioxide. Titanium Dioxide is listed as a Group 2B-"Possibly carcinogenic to humans" by IARC. No significant exposure to Titanium Dioxide is thought to occur during the use of products in which Titanium Dioxide is bound to other materials, such as in paints during brush application or drying. Risk of overexposure depends on duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of Titanium Dioxide in the formula. (Ref: IARC Monograph, Vol. 93, 2010)

PRIMARY ROUTE(S) OF ENTRY: Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

ACUTE TOXICITY VALUES

The acute effects of this product have not been tested. Data on individual components are tabulated below:

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Vapor LC50</u>
67-64-1	Acetone	5800 mg/kg Rat	>15700 mg/kg Rabbit	50.1 mg/L Rat
123-86-4	n-Butyl Acetate	10768 mg/kg Rat	>17600 mg/kg Rabbit	> 21 mg/L Rat
106-97-8	n-Butane	N.E.	N.E.	658 mg/L Rat
13463-67-7	Titanium Dioxide	>10000 mg/kg Rat	2500 mg/kg	N.E.
1330-20-7	Xylenes (o-, m-, p- isomers)	3500 mg/kg Rat	>4350 mg/kg Rabbit	29.08 mg/L Rat
7727-43-7	Barium Sulfate	307000 mg/kg Rat	N.E.	N.E.
5131-66-8	Propylene Glycol Monobutyl Ether	1900 mg/kg Rat	N.E.	N.E.
100-41-4	Ethylbenzene	3500 mg/kg Rat	15400 mg/kg Rabbit	17.4 mg/L Rat
64742-95-6	Solvent Naphtha, Light Aromatic	8400 mg/kg Rat	>2000 mg/kg Rabbit	N.E.

N.E. - Not Established

12. Ecological Information

ECOLOGICAL INFORMATION: Product is a mixture of listed components. Product is a mixture of listed components.

13. Disposal Information

DISPOSAL INFORMATION: Do not incinerate closed containers. Dispose of material in accordance to local, state, and federal regulations and ordinances. Do not allow to enter waterways, wastewater, soil, storm drains or sewer systems. This product as supplied is a USEPA defined ignitable hazardous waste. Dispose of unusable product as a hazardous waste (D001) in accordance with local, state, and federal regulation.

14. Transport Information

	<u>Domestic (USDOT)</u>	<u>International (IMDG)</u>	<u>Air (IATA)</u>	<u>TDG (Canada)</u>
UN Number:	N.A.	1950	1950	N.A.
Proper Shipping Name:	Paint and Related Spray Products in Ltd Qty	Aerosols	Aerosols, flammable	Aerosols
Hazard Class:	N.A.	2	2.1	N.A.
Packing Group:	N.A.	N.A.	N.A.	N.A.
Limited Quantity:	Yes	Yes	Yes	Yes

15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Gas under pressure, Carcinogenicity, Serious eye damage or eye irritation, Specific target organ toxicity (single or repeated exposure), Germ cell mutagenicity

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

<u>Chemical Name</u>	<u>CAS-No.</u>
Xylenes (o-, m-, p- isomers)	1330-20-7
Ethylbenzene	100-41-4

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(b) if exported from the United States:

No TSCA 12(b) components exist in this product.

U.S. State Regulations:

California Proposition 65:

WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

16. Other Information**HMIS RATINGS**

Health: 2* **Flammability:** 4 **Physical Hazard:** 0 **Personal Protection:** X

NFPA RATINGS

Health: N.E. **Flammability:** 4 **Instability:** 0

Maximum Incremental Reactivity 0.93

SDS REVISION DATE: 4/9/2019

REASON FOR REVISION: Substance Chemical Name Changed
 Substance Hazardous Flag Changed
 Substance Hazard Threshold % Changed
 Substance and/or Product Properties Changed in Section(s):
 03 - Composition/Information on Ingredients
 Revision Statement(s) Changed

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

Rust-Oleum Corporation believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. Rust-Oleum Corporation makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.

Section 1 Chemical Product and Company Information



5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product	SUCROSE
Synonyms	Cane Sugar ; Beet Sugar

Section 2 Hazards Identification

This substance or mixture has not been classified at this time according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: WARNING

Pictograms: GHS07

Target organs: None known.



GHS Classification:
STOT-SE (Category 3)

GHS Label information: Hazard statement(s):
H335: May cause respiratory irritation.

Precautionary statement(s):

P261: Avoid breathing dust.

P271: Use only outdoors or in a well-ventilated area.

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312: Call a POISON CENTER or doctor/physician if you feel unwell.

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P405: Store locked up.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with all local, state and federal regulations.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Sucrose	57-50-1	100%	200-334-9

Section 4 First Aid Measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for use if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 7 Handling & Storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name Sucrose	ACGIH (TLV) TWA: 10 mg/m ³ (A4)	OSHA (PEL) TWA: 15 mg/m ³	NIOSH (REL) TWA: 10 mg/m ³
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Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: White granular solid.	Evaporation rate (= 1): Not applicable	Partition coefficient: (n-octanol / water): Data not available
Odor: No odor.	Flammability (solid/gas): Data not available.	Auto-ignition temperature: Data not available
Odor threshold: Data not available.	Explosion limits: Lower / Upper: Not applicable	Decomposition temperature: Data not available.
pH: Data not available.	Vapor pressure (mm Hg): Negligible	Viscosity: Data not available.
Melting / Freezing point: 185°C (365°F)	Vapor density (Air = 1): Data not available	Molecular formula: C ₁₂ H ₂₂ O ₁₁
Boiling point: Decomposes	Relative density (Specific gravity): 1.58	Molecular weight: 342.30
Flash point: Not applicable	Solubility(ies): 200 g/100 ml water @ 20°C	

Section 10 Stability & Reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures.

Incompatible materials: Strong oxidizers.

Hazardous decomposition products: Oxides of carbon.

Section 11 Toxicological Information

Acute toxicity: Oral-rat LD50: 420 mg/kg

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory effects.

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Inhalation may cause respiratory irritation.

Ingestion: Not expected to be a health hazard.

Skin: Not expected to be a health hazard.

Eyes: Contact with eyes may cause transient irritation.

Signs and symptoms of exposure: See Potential health effects above.

Additional information: RTECS #: WN6500000

Section 12 Ecological Information

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available **Bioaccumulative potential:** No data available

Mobility in soil: No data available **PBT and vPvB assessment:** No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information

UN/NA number: Not applicable	Shipping name: Not Regulated	Reportable Quantity: No	Marine pollutant: No
Hazard class: Not applicable	Packing group: Not applicable		
Exceptions: Not applicable	2012 ERG Guide # Not applicable		

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Sucrose	Listed	Not listed	Not listed	Listed	Not listed	Uncontrolled product

Section 16 Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Section 1 Chemical Product and Company Information Page E1 of E2



5100 West Henrietta Rd
 PO Box 92912
 Rochester, NY 14692-9012
 Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
 For laboratory use only.
 Not for drug, food or household use.

Product	SUDAN III
Synonyms	Solvent Red 23 (C.I. No. 26100)

Section 2 Hazards Identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: Not classified
Pictograms: Not classified
Target organs: None known

GHS Classification: Not classified
GHS Label information: Hazard statement: Not classified
Precautionary statement: Not classified

Supplementary Information:

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Sudan III	85-86-9	100%	201-638-4

Section 4 First Aid Measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Dry chemical, CO₂, water spray or regular foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 7

Handling & Storage

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Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Protect from light.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Sudan III	None established	None established	None established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Solid. Dark red-brown powder

Odor: No odor.

Odor threshold: Data not available.

pH: Data not available.

Melting / Freezing point: >100°C (212°F)

Boiling point: Data not available

Flash point: Not flammable

Evaporation rate (= 1): Data not available

Flammability (solid/gas): Data not available.

Explosion limits: Lower / Upper: Not needed

Vapor pressure (mm Hg): Data not available

Vapor density (Air = 1): Data not available

Relative density (Specific gravity): 0.34

Solubility(ies): Insoluble in water

Partition coefficient: Data not available

Auto-ignition temperature: Data not available

Decomposition temperature: Data not available

Viscosity: Data not available.

Molecular formula: C₂₂H₁₆N₄O

Molecular weight: 352.40

Section 10 Stability & Reactivity

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures. Protect from light.

Incompatible materials: Strong oxidizers.

Hazardous decomposition products: Carbon oxides.

Section 11 Toxicological Information

Acute toxicity: Data not available

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC classified: Group 3: Not classifiable as to its carcinogenicity to humans.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

Skin: May cause irritation.

Eyes: May cause irritation.

Signs and symptoms of exposure: To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: QK4250000

Section 12 Ecological Information

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Marine pollutant: No

Exceptions: Not applicable

2012 ERG Guide #: Not applicable

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Sudan III	Listed	Not listed	Not listed	Listed	Not listed	Uncontrolled product

Section 16 Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Revision Date: June 18, 2014

Supersedes: June 18, 2014

Safety Data Sheet

Sudan IV

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Sudan IV
Recommended Use: Science education applications
Synonyms: Scarlet Red, Solvent Red 24, C.I. #26105, 1-(2-methyl-4-(2-methylphenyldiazenyl) phenyl) azonaphthalen-2-ol
Distributor: Carolina Biological Supply Company, 2700 York Road, Burlington, NC 27215-3398
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

WARNING



Causes skin irritation. Causes serious eye irritation. May cause long lasting harmful effects to aquatic life.

GHS Classification:

Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2A, Hazardous to the aquatic environment - Chronic Category 4

Acute Toxicity Oral Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Dermal Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Gas Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Vapor Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Dust/Mist Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity

Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Sudan IV	85-83-6	100

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin Contact: IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use dry chemical, CO2 or appropriate foam.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Fire or excessive heat may produce hazardous decomposition products.

Safety Data Sheet

Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled:

Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill.
Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

Section 7 Handling and Storage

Handling: Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.
Storage: Keep container tightly closed in a cool, well-ventilated place.
Storage Code: Green - general chemical storage

Section 8 Protection Information

<u>Chemical Name</u>	<u>(TWA)</u>	<u>ACGIH</u>	<u>(STEL)</u>	<u>(TWA)</u>	<u>OSHA PEL</u>	<u>(STEL)</u>
Sudan IV	N/A		N/A	N/A		N/A

Control Parameters

Engineering Measures:

No exposure limits exist for the constituents of this product. General room ventilation might be required to maintain operator comfort under normal conditions of use.

Personal Protective Equipment (PPE):

Lab coat, apron, eye wash, safety shower.

Respiratory Protection:

No respiratory protection required under normal conditions of use.

Eye Protection:

Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection:

Wear protective gloves. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work

Gloves:

Butyl rubber, Neoprene, Nitrile, Polyvinyl chloride

Section 9 Physical Data

Formula: C₂₄H₂₀N₄O
Molecular Weight: 380.44
Appearance: Dark Red Solid
Odor: No data available
Odor Threshold: No data available
pH: No data available
Melting Point: 199 C
Boiling Point: No data available
Flash Point: 93 C
Flammable Limits in Air: No data available

Vapor Pressure: No data available
Evaporation Rate (BuAc=1): No data available
Vapor Density (Air=1): N/A
Specific Gravity: Approx. 0.9
Solubility in Water: Practically Insoluble
Log Pow (calculated): 8.72
Autoignition Temperature: No data available
Decomposition Temperature: No data available
Viscosity: No data available
Percent Volatile by Volume: No data available

Section 10 Reactivity Data

Reactivity: Not generally reactive under normal conditions.
Chemical Stability: Stable under normal conditions.
Conditions to Avoid: Dusting.
Incompatible Materials: Strong oxidizing agents
Hazardous Decomposition Products: Carbon dioxide, Carbon monoxide, Nitrogen containing gases
Hazardous Polymerization: Will not occur

Section 11 Toxicity Data

Routes of Entry: Inhalation, ingestion, eye or skin contact.
Symptoms (Acute): No data available, Respiratory disorders

Safety Data Sheet

Delayed Effects: No data available

Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Sudan IV	85-83-6	Not applicable	Not applicable	Not applicable

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Sudan IV	85-83-6	Not listed	Not listed	Not listed

Chronic Effects:

Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.

Target Organ Effects:

Acute: No data available
Chronic: No data available

Section 12 Ecological Data

Overview: Slight ecological hazard. In high concentrations, this product may be dangerous to plants and/or wildlife.
Mobility: This material is expected to have essentially no mobility in soil. It absorbs strongly to most soil types.
Persistence: No data
Bioaccumulation: Bioconcentration is expected to occur.
Degradability: No data
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
Sudan IV	85-83-6	

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): Not Determined

Section 14 Transport Information

Ground - DOT Proper Shipping Name: Not regulated for ground transport by US DOT.
Air - IATA Proper Shipping Name: Not regulated for air transport by IATA.

Section 15 Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Sudan IV	85-83-6	No	No	No	No	No

Section 16 Additional Information

Revised: 04/29/2013 **Replaces:** 04/12/2013 **Printed:** 06-21-2013

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

Safety Data Sheet

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health



Safety Data Sheet

Sulfur Lumps

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Sulfur Lumps

Synonyms/Generic Names: None

Product Number: 5630

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI. 53925

For More Information Call: 920-623-2140 (Monday-Friday 8:00-4:30)

In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

OSHA Hazards: Flammable solid, Irritant

Target Organs: None

Signal Words: Warning

Pictograms



GHS Classification:

Flammable solid	Category 2
Skin irritation	Category 2
Acute toxicity, Oral	Category 5
Acute toxicity, Inhalation	Category 5
Acute toxicity, Dermal	Category 5

GHS Label Elements, including precautionary statements:

Hazard Statements:

H228	Flammable solid
H303+H313	May be harmful if swallowed or in contact with skin
H333	May be harmful if inhaled

Precautionary Statements:

P210	Keep away from heat/sparks/open flames/ hot surfaces. –No smoking.
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Potential Health Effects

Eyes	Causes eye irritation
Inhalation	May be harmful if inhaled. Material may be irritating to the mucous membranes and upper respiratory tract.
Skin	May cause irritation.
Ingestion	May be harmful if swallowed.

NFPA Ratings

Health	2
Flammability	1
Reactivity	0
Specific hazard	N/A

HMIS Ratings

Health	2
Fire	2
Reactivity	0
Personal	E

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Sulfur	100	7704-34-9	231-722-6	S	32.06 g/mol

4. FIRST-AID MEASURES

Eyes	In case of eye contact, rinse with plenty of water and seek medical attention.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention.
Ingestion	Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention.

5. FIREFIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Product is flammable. Use appropriate media for adjacent fire. For a small fire, use dry chemical powder. For a large fire, use water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, auto-ignition or explosion.
Special protective equipment and precautions for firefighters	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
Specific hazards arising from the chemical	Emits toxic fumes (sulfur dioxide) under fire conditions. See also Stability and Reactivity section.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Do not let product enter drains. Any release to the environment may be subject to federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Sweep up and place in a suitable container for disposal. Clean surfaces with water to remove residual contamination. Dispose of all waste or cleanup materials in accordance with local regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Do not breathe dust.

Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area in a tightly-closed, plainly-labeled container. Protect against moisture and light. Maintain adequate ventilation. Wash thoroughly after handling. Keep away from incompatible materials (see section 10 for incompatibilities).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Controls:

Component	Exposure Limits	Basis	Entity
Sulfur	5 mg/m ³	TWA	USA OSHA
	15 mg/m ³	TWA	USA OSHA

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

Personal Protection

Eyes	Wear chemical safety glasses with a face shield for splash protection.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear chemical resistant gloves, apron and other protective clothing appropriate to the risk of exposure.
Other	Not Available

Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling. Have supplies and equipment for neutralization and running water available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Yellow powder, crystals, lumps or flakes.
Odor	Slight to odorless.
Odor threshold	Not Available
pH	Not Available
Melting point/freezing point	118-120°C (244-248°F)
Initial boiling point and boiling range	435°C (833°F)
Flash point	204°C (405°F)
Evaporation rate	Not Available
Flammability (solid, gas)	Flammable
Upper/lower flammability or explosive limit	Upper: 6.83% Lower: 0.17%
Vapor pressure	10 hPa (8 mmHg) at 246°C (475°F)

Vapor density	1 hPa (1 mmHg) at 183.8°C (362.8°F)
Relative density	Not Available
Solubility (ies)	2.05 g/cm ³ at 20°C (68°F)
Partition coefficient: n-octanol/water	Insoluble
Auto-ignition temperature	Not Available
Decomposition temperature	232°C (450°F)
	Not Available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Excessive heat, ignition sources
Incompatible Materials	Alkali and alkaline earth metals (sodium, potassium, lithium, calcium and magnesium metals), oxidizers, ammonia.
Hazardous Decomposition Products	Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Skin	LD50 Dermal - rabbit - > 2,000 mg/kg
Eyes	Not Available
Respiratory	LC50 Inhalation - rat - 4 h - > 9.23 mg/l
Ingestion	LDLO Oral - rabbit - 175 mg/kg LD50 Oral - rat - > 2,000 mg/kg
Other	LDLO Intravenous - rat - 8 mg/kg LDLO Intravenous - rabbit - 5 mg/kg LDLO Intraperitoneal - guinea pig - 55 mg/kg LDLO Intravenous - dog - 10 mg/kg

Carcinogenicity

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs & Symptoms of Exposure

Skin	Irritation. Itching, swelling, redness and pain.
Eyes	Irritation. Itching, swelling, redness and pain.
Respiratory	Irritation to mucous membranes and upper respiratory tract characterized by itching, swelling, redness and pain.
Ingestion	Irritation. May cause nausea, vomiting and pain.

Chronic Toxicity	Not Available
Teratogenicity	Not Available
Mutagenicity	Not Available
Embryotoxicity	Not Available
Specific Target Organ Toxicity	Not Available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Vertebrate	LC50 - Oncorhynchus mykiss (rainbow trout) - > 180 mg/l - 96 h LC50 - other fish - 866 mg/l - 96 h
Aquatic Invertebrate	EC50 - Daphnia magna (Water flea) - > 5,000 mg/l - 48 h
Terrestrial	Not Available

Persistence and Degradability	Not Available
Bioaccumulative Potential	Does not accumulate
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Not Available

13. DISPOSAL CONSIDERATIONS

Waste Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

US DOT	UN1350, Flammable solid, 4.1,pg III
TDG	UN1350, FLAMMABLE SOLID, 4.1,pg III
IMDG	UN1350, FLAMMABLE SOLID, 4.1,pg III
Marine Pollutant	No
IATA/ICAO	UN1350, Flammable solid, 4.1,pg III

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Sulfur
SARA 312	Sulfur
SARA 313	Not Listed
WHMIS Canada	Class B-4: Flammable solid

16. OTHER INFORMATION

Revision	Date
Revision 1	07-11-2011
Revision 2	06-06-2012

Disclaimer: Columbus Chemical Industries, Inc. ("Columbus") believes that the information herein is factual but is not intended to be all inclusive. The information relates only to the specific material designated and does not relate to its use in combination with other materials or its use as to any particular process. Because safety standards and regulations are subject to change and because Columbus has no continuing control over the material, those handling, storing or using the material should satisfy themselves that they have current information regarding the particular way the material is handled, stored or used and that the same is done in accordance with federal, state and local law. COLUMBUS MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION) WARRANTIES WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN OR WITH RESPECT TO FITNESS FOR ANY PARTICULAR USE.



Fisher Scientific

Part of Thermo Fisher Scientific

SAFETY DATA SHEET

Creation Date 17-Nov-2009

Revision Date 07-May-2015

Revision Number 2

1. Identification

Product Name Sulfur precipitated
Cat No. : S594-500, S595-500
Synonyms Sulphur; Brimstone.
Recommended Use Laboratory chemicals.
Uses advised against No Information available
Details of the supplier of the safety data sheet

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin Corrosion/irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system.	
Combustible dust	Yes

Label Elements

Signal Word

Warning

Hazard Statements

May form combustible dust concentrations in air
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling
 Wear protective gloves/protective clothing/eye protection/face protection
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Call a POISON CENTER or doctor/physician if you feel unwell

Skin

IF ON SKIN: Wash with plenty of soap and water
 If skin irritation occurs: Get medical advice/attention
 Take off contaminated clothing and wash before reuse

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If eye irritation persists: Get medical advice/attention

Storage

Store in a well-ventilated place. Keep container tightly closed
 Store locked up

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

3. Composition / information on ingredients

Component	CAS-No	Weight %
Sulfur	7704-34-9	100

4. First-aid measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.
Inhalation	Move to fresh air. If breathing is difficult, give oxygen. Obtain medical attention.
Ingestion	Do not induce vomiting. Obtain medical attention.
Most important symptoms/effects Notes to Physician	No information available. Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	Cool closed containers exposed to fire with water spray.
Unsuitable Extinguishing Media	No information available
Flash Point	168 °C / 334.4 °F

Method -	No information available
Autoignition Temperature	235 °C / 455 °F
Explosion Limits	
Upper	46.0%
Lower	3.3%
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical

Flammable. Containers may explode when heated.

Hazardous Combustion Products

Sulfur oxides

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

Health	Flammability	Instability	Physical hazards
2	1	0	N/A

6. Accidental release measures

Personal Precautions	Use personal protective equipment. Avoid dust formation. Remove all sources of ignition. Take precautionary measures against static discharges.
Environmental Precautions	Should not be released into the environment. See Section 12 for additional ecological information. Do not flush into surface water or sanitary sewer system.
Methods for Containment and Clean Up	Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Remove all sources of ignition.

7. Handling and storage

Handling	Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Take precautionary measures against static discharges. Wash hands before breaks and immediately after handling the product.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Flammables area. Keep away from heat and sources of ignition.

8. Exposure controls / personal protection

Exposure Guidelines	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
Engineering Measures	Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment.
Personal Protective Equipment	
Eye/face Protection	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin and body protection	Wear appropriate protective gloves and clothing to prevent skin exposure.
Respiratory Protection	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard

EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Solid
Appearance	Yellow
Odor	rotten-egg like
Odor Threshold	No information available
pH	No information available
Melting Point/Range	113 °C / 235.4 °F
Boiling Point/Range	445 °C / 833.0 °F
Flash Point	168 °C / 334.4 °F
Evaporation Rate	No information available
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	46.0%
Lower	3.3%
Vapor Pressure	No information available
Vapor Density	No information available
Relative Density	2.07
Solubility	Insoluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	235 °C / 455 °F
Decomposition Temperature	No information available
Viscosity	No information available
Molecular Formula	S
Molecular Weight	32.06

10. Stability and reactivity

Reactive Hazard	None known, based on information available
Stability	Stable under normal conditions.
Conditions to Avoid	Incompatible products. Excess heat. Avoid dust formation. Keep away from open flames, hot surfaces and sources of ignition.
Incompatible Materials	Strong oxidizing agents
Hazardous Decomposition Products	Sulfur oxides
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

11. Toxicological information

Acute Toxicity**Product Information****Component Information**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sulfur	3000 mg/kg (Rat)	2000 mg/kg (Rabbit)	9.23 mg/L (Rat) 4 h

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Irritating to eyes, respiratory system and skin

Sensitization	May cause sensitization by inhalation and skin contact														
Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen.														
	<table border="1"> <thead> <tr> <th>Component</th> <th>CAS-No</th> <th>IARC</th> <th>NTP</th> <th>ACGIH</th> <th>OSHA</th> <th>Mexico</th> </tr> </thead> <tbody> <tr> <td>Sulfur</td> <td>7704-34-9</td> <td>Not listed</td> <td>Not listed</td> <td>Not listed</td> <td>Not listed</td> <td>Not listed</td> </tr> </tbody> </table>	Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico	Sulfur	7704-34-9	Not listed	Not listed	Not listed	Not listed	Not listed
Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico									
Sulfur	7704-34-9	Not listed	Not listed	Not listed	Not listed	Not listed									
Mutagenic Effects	No information available														
Reproductive Effects	No information available.														
Developmental Effects	No information available.														
Teratogenicity	No information available.														
STOT - single exposure	Respiratory system														
STOT - repeated exposure	None known														
Aspiration hazard	No information available														
Symptoms / effects, both acute and delayed	No information available														
Endocrine Disruptor Information	No information available														
Other Adverse Effects	See actual entry in RTECS for complete information.														

12. Ecological information

Ecotoxicity

Do not empty into drains.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Sulfur	Not listed	Oncorhynchus mykiss:LC50>180mg/L/96h	Not listed	EC50: >5g/L/48h

Persistence and Degradability Insoluble in water
Bioaccumulation/ Accumulation No information available.

Mobility Is not likely mobile in the environment due its low water solubility.

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN1350
 Proper Shipping Name SULPHUR
 Hazard Class 4.1
 Subsidiary Hazard Class III

TDG

UN-No UN1350
 Proper Shipping Name SULPHUR
 Hazard Class 4.1
 Packing Group III

IATA

UN-No 1350
 Proper Shipping Name SULPHUR
 Hazard Class 4.1
 Packing Group III

IMDG/IMO

UN-No 1350
 Proper Shipping Name SULPHUR
 Hazard Class 4.1
 Packing Group III

15. Regulatory information**International Inventories**

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Sulfur	X	X	-	231-722-6	-		X	-	X	X	X

Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313 Not applicable

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act Not applicable

Clean Air Act Not applicable

OSHA Occupational Safety and Health Administration
Not applicable**CERCLA**

Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Sulfur	X	X	X	-	X

U.S. Department of Transportation

Reportable Quantity (RQ): N
 DOT Marine Pollutant N
 DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations**Mexico - Grade**

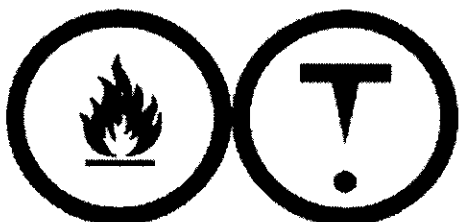
Slight risk, Grade 1

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class

B4 Flammable solid
D2B Toxic materials

**16. Other information****Prepared By**

Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date

17-Nov-2009

Revision Date

07-May-2015

Print Date

07-May-2015

Revision Summary

This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of SDS



Fisher Scientific

Part of Thermo Fisher Scientific

SAFETY DATA SHEET

Creation Date 12-Nov-2010

Revision Date 27-Oct-2014

Revision Number 1

1. Identification

Product Name Sulfuric Acid (Certified ACS Plus)

Cat No. : A300-212; A300-225LB; A300-500; A300-612GAL; A300-700LB;
A300C212; A300P500; A300S212; A300S212EA; A300S500; A300SI212

Synonyms Hydrogen sulfate; Vitriol brown oil; Oil of vitriol

Recommended Use Laboratory chemicals.

Uses advised against No Information available

Details of the supplier of the safety data sheet

Company

Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number

CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin Corrosion/irritation	Category 1 A
Serious Eye Damage/Eye Irritation	Category 1
Carcinogenicity	Category 1A
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system.	
Specific target organ toxicity - (repeated exposure)	Category 2
Target Organs - Kidney.	

Label Elements

Signal Word

Danger

Hazard Statements

Causes severe skin burns and eye damage
May cause respiratory irritation
May cause cancer
May cause damage to organs through prolonged or repeated exposure

**Precautionary Statements****Prevention**

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Use personal protective equipment as required
 Do not breathe dust/fume/gas/mist/vapors/spray
 Wash face, hands and any exposed skin thoroughly after handling
 Use only outdoors or in a well-ventilated area

Response

Immediately call a POISON CENTER or doctor/physician

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
 Wash contaminated clothing before reuse

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Ingestion

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Storage

Store locked up
 Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

WARNING! This product contains a chemical known in the State of California to cause cancer.

3. Composition / information on ingredients

Component	CAS-No	Weight %
Sulfuric acid	7664-93-9	73 - 98
Water	7732-18-5	2 - 27

4. First-aid measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
Inhalation	Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.
Ingestion	Do not induce vomiting. Call a physician or Poison Control Center immediately.
Most important symptoms/effects	Causes burns by all exposure routes. Product is a corrosive material. Use of gastric

Notes to Physician

lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation
Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.

Unsuitable Extinguishing Media DO NOT USE WATER

Flash Point Not applicable
Method - No information available

Autoignition Temperature No information available

Explosion Limits

Upper No data available

Lower No data available

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical

Corrosive Material. Reacts violently with water. Contact with metals may evolve flammable gas. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products

Sulfur oxides Hydrogen

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health
3

Flammability
0

Instability
2

Physical hazards
W

6. Accidental release measures

Personal Precautions Wear self-contained breathing apparatus and protective suit. Evacuate personnel to safe areas. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing.

Environmental Precautions Avoid release to the environment. See Section 12 for additional ecological information.

Methods for Containment and Clean Up Wear self-contained breathing apparatus and protective suit. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling Use only under a chemical fume hood. Wear personal protective equipment. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Do not ingest. Do not allow contact with water.

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from water. Corrosives area.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sulfuric acid	TWA: 0.2 mg/m ³	(Vacated) TWA: 1 mg/m ³ TWA: 1 mg/m ³	IDLH: 15 mg/m ³ TWA: 1 mg/m ³

Component	Quebec	Mexico OEL (TWA)	Ontario TWAEV

Sulfuric acid	TWA: 1 mg/m ³ STEL: 3 mg/m ³	TWA: 1 mg/m ³	TWA: 0.2 mg/m ³
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Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures

Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment**Eye/face Protection**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid
Appearance	Clear, Colorless to brown
Odor	Odorless
Odor Threshold	No information available
pH	0.3 (1N)
Melting Point/Range	10 °C / 50 °F
Boiling Point/Range	290 - 338 °C / 554 - 640.4 °F
Flash Point	Not applicable
Evaporation Rate	Slower than ether
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	< 0.001 mmHg @ 20 °C
Vapor Density	3.38 (Air = 1.0)
Specific Gravity	1.84
Solubility	Soluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	340°C
Viscosity	No information available
Molecular Formula	H ₂ SO ₄
Molecular Weight	98.08

10. Stability and reactivity

Reactive Hazard	Yes
Stability	Reacts violently with water. Hygroscopic.
Conditions to Avoid	Incompatible products. Excess heat. Exposure to moist air or water.

Incompatible Materials	Water, Organic materials, Strong acids, Strong bases, Metals, Alcohols, Cyanides, Sulfides
Hazardous Decomposition Products	Sulfur oxides, Hydrogen
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	Contact with metals may evolve flammable hydrogen gas.

11. Toxicological information

Acute Toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sulfuric acid	2140 mg/kg (Rat)	Not listed	LC50 = 510 mg/m ³ (Rat) 2 h
Water	-	Not listed	Not listed

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Causes severe burns by all exposure routes

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen. Exposure to strong inorganic mists containing sulfuric acid may cause cancer by inhalation.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Sulfuric acid	7664-93-9	Group 1	Known	A2	X	A2
Water	7732-18-5	Not listed	Not listed	Not listed	Not listed	Not listed

IARC: (International Agency for Research on Cancer)

IARC: (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

A1 - Known Human Carcinogen

A2 - Suspected Human Carcinogen

A3 - Animal Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

ACGIH: (American Conference of Governmental Industrial Hygienists)

Mutagenic Effects No information available

Reproductive Effects Experiments have shown reproductive toxicity effects on laboratory animals.

Developmental Effects Developmental effects have occurred in experimental animals.

Teratogenicity No information available.

STOT - single exposure Respiratory system

STOT - repeated exposure Kidney

Aspiration hazard No information available

Symptoms / effects, both acute and delayed Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Endocrine Disruptor Information No information available

Other Adverse Effects See actual entry in RTECS for complete information.

12. Ecological information

Ecotoxicity

This product contains the following substance(s) which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Sulfuric acid	-	LC50: > 500 mg/L, 96h static (Brachydanio rerio)	-	EC50: 29 mg/L/24h

Persistence and Degradability No information available
Bioaccumulation/ Accumulation No information available.

Mobility No information available.

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN1830
 Proper Shipping Name Sulfuric acid
 Hazard Class 8
 Packing Group II

TDG

UN-No UN1830
 Proper Shipping Name SULFURIC ACID
 Hazard Class 8
 Packing Group II

IATA

UN-No UN1830
 Proper Shipping Name SULFURIC ACID
 Hazard Class 8
 Packing Group II

IMDG/IMO

UN-No UN1830
 Proper Shipping Name SULFURIC ACID
 Hazard Class 8
 Packing Group II

15. Regulatory information

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Sulfuric acid	X	X	-	231-639-5	-		X	X	X	X	X
Water	X	X	-	231-791-2	-		X	-	X	X	X

Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Sulfuric acid	7664-93-9	73 - 98	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	Yes

CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Sulfuric acid	X	1000 lb	-	-

Clean Air Act Not applicable

OSHA Occupational Safety and Health Administration
Not applicable**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Sulfuric acid	1000 lb	1000 lb

California Proposition 65 This product contains the following proposition 65 chemicals

Component	CAS-No	California Prop. 65	Prop 65 NSRL	Category
Sulfuric acid	7664-93-9	Carcinogen	-	Carcinogen

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Sulfuric acid	X	X	X	X	X
Water	-	-	X	-	-

U.S. Department of TransportationReportable Quantity (RQ): Y
DOT Marine Pollutant N
DOT Severe Marine Pollutant N**U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

Other International Regulations

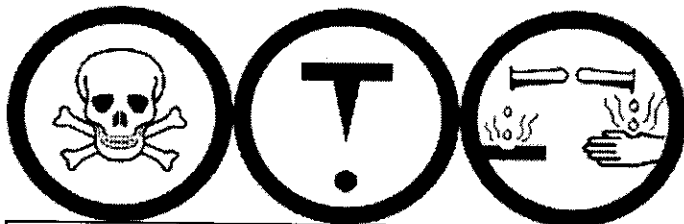
Mexico - Grade No information available

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class D1A Very toxic materials
E Corrosive material

D2A Very toxic materials

**16. Other information**

Prepared By

Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date

12-Nov-2010

Revision Date

27-Oct-2014

Print Date

27-Oct-2014

Revision Summary

This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 801.04

Revision Date: March 25, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Sulfuric Acid Solution, Less than 1M

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **WARNING**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin and serious eye damage, corrosion or irritation (Category 2, 2A). Causes skin and serious eye irritation (H315+H319).

Industrial exposure to sulfuric acid vapors and mists is listed as a known human carcinogen by IARC (IARC-1).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Sulfuric acid	7664-93-9	H ₂ SO ₄	98.08	0.3-5.3%
Water	7732-18-5	H ₂ O	18.00	94.7-99.7%

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.**If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).**If on skin:** Wash with plenty of water (P302+P352). **If skin irritation occurs:** Get medical advice or attention (P332+P313).**If swallowed:** Rinse mouth. Call a POISON CENTER or physician if you feel unwell.

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable, noncombustible solution.

In case of fire: Use a tri-class dry chemical fire extinguisher.**NFPA Code**
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Ventilate area. Spilled sulfuric acid is very slippery. Contain spill with sand or other inert absorbent material, neutralize with sodium bicarbonate or calcium hydroxide and deposit in sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #9. Store with acids, except nitric acid.

Store in a dedicated acid cabinet and away from any source of water; if an acid cabinet is not available, store in Flinn Saf-Cube™.

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264).

Exposure guidelines: (as sulfuric acid) PEL 1 mg/m³ (OSHA); TLV 0.2 mg/m³ (thoracic fraction) (ACGIH); IDLH 15 mg/m³ (OSHA)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Clear, colorless liquid. Slight sulfurous odor.

pH: <1

pH 0.01M ~ 2

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong bases, organic materials, finely powdered metals, peroxides, carbonates, chlorates, nitrates, and reducing agents.

Shelf life: Good, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Skin and eye irritant.

ORL-RAT LD₅₀: 2140 mg/kg as sulfuric acid

Chronic effects: Dental erosion.

IHL-RAT LC₅₀: 510 mg/m³/2 hour as sulfuric acid

Target organs: Eyes, skin, respiratory system.

SKN-RBT LD₅₀: N.A.

N.A. = Not available, not all health aspects of this substance have been fully investigated.

SECTION 12 — ECOLOGICAL INFORMATION

Fish: Bluegill/Sunfish: 49 mg/L; 48Hr; TLm (tap water @ 20°C)

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.

Flinn Suggested Disposal Method #24b is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Sulfuric Acid Solution. Hazard class: 8, Corrosive. UN number: UN2796.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-639-5). RCRA code D002, D003.

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the science instructor to be in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of Flinn Scientific, Inc. and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).

Consult your copy of the *Flinn Science Catalog/Reference Manual* for additional information about laboratory chemicals.

Revision Date: March 25, 2014



5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory use only.
Not for drug, food or household use.

Product	SULFURIC ACID, CONCENTRATE, 95-98%
Synonyms	Sulfuric Acid / Hydrogen Sulfate / Battery Acid

Section 2: Hazard Identification

Signal word: DANGER
Pictograms: GHS05
Target organs: Respiratory system, skin, eyes, teeth.



GHS Classification:
Skin corr. (Category 1A)

GHS Label information: Hazard statement(s):
H314: Causes severe skin burns and eye damage.

Precautionary statement(s):
P260: Do not breathe mist/vapours/spray.
P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER or doctor.
P363: Wash contaminated clothing before reuse.
P405: Store locked up.
P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Ca Prop 65 - This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 3: Composition/Information on Ingredients

Chemical Name	CAS #	%	EINECS
Sulfuric acid	7664-93-9	95-98%	231-639-5

Section 4: First Aid Measures

INGESTION: Harmful or fatal if swallowed. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.
INHALATION: Harmful or fatal if inhaled. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
EYE CONTACT: Causes severe burns. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.
SKIN ABSORPTION: Causes severe burns. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5: Fire-Fighting Measures

Suitable Extinguishing Media: Product is a water reactive material. DO NOT USE WATER! Use dry chemicals only for extinguishing.
Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.
Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water on combustibles burning in vicinity of acid but use care as water applied to the acid results in severe generation of heat and may cause boiling and splattering. Sulfuric acid will not burn, but is capable of igniting finely divided combustible materials on contact. May react violently with organic materials and water with the evolution of heat. Contact with reactive metals, e.g. aluminum, may result in the generation of flammable hydrogen gas.

Section 6: Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.
Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.
Containment and Cleanup: Remove all sources of ignition. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Section 2 Hazardous Ingredients

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Hygroscopic material. Never add water to this solution, always add acid, slowly and in small amounts to water to avoid splattering.

Section 3 Hazardous Ingredients (Hazardous Information)

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Sulfuric acid	TWA: 0.2 mg/m ³ (A2)	TWA: 1 mg/m ³	TWA: 1 mg/m ³

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: Use a chemical fume hood and/or wear a NIOSH/MSHA-approved respirator.

Section 4 Physical and Chemical Properties

Appearance: Clear, oily liquid. Odor: Slightly pungent odor. Odor threshold: Data not available. pH: <1.5 acidic, in solution. Melting / Freezing point: <11°C (52°F) Boiling point: Approximately 275-325°C (527-617°F) Flash point: Not flammable.	Evaporation rate (= 1): Data not available. Flammability (solid/gas): Data not available. Explosion limits: Upper/Lower: Data not available. Vapor pressure (mm Hg): Variable Vapor density (Air = 1): Data not available. Relative density (Specific gravity): 1.84 Solubility(ies): Complete in water.	Partition coefficient: (n-octanol / water): Data not available. Auto-ignition temperature: Data not available. Decomposition temperature: 340°C (644°F) Viscosity: Data not available. Molecular formula: H ₂ SO ₄ Molecular weight: 98.01
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Section 5 Reactivity

Chemical stability: Stable
Hazardous polymerization: Will not occur.
Conditions to avoid: Avoid contact with water and heat. Avoid temperatures above 250°C (482°F).
Incompatible materials: Alkalies, amines, anhydrides, combustibles, organics, oxidizers, powdered metals.
Hazardous decomposition products: Sulfur trioxide and/or sulfur dioxide. Hydrogen gas by reaction with metals.

Section 6 Toxicology

Acute toxicity: Oral-rat LD50: 2140 mg/kg ; Inhalation-rat LC50: 510 mg/m³/2 hours
Skin corrosion/irritation: Skin-rabbit - causes burns
Serious eye damage/irritation: Eyes-rabbit - causes burns
Respiratory or skin sensitization: Data not available
Germ cell mutagenicity: Data not available
Carcinogenicity: Data not available
 NTP: This product contains a chemical known to be a human carcinogen.
 IARC classified: Group 1: Carcinogenic to humans. [Acid mists, strong inorganic]
 OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive toxicity: Data not available
STOT-single exposure: Data not available
STOT-repeated exposure: Data not available
Aspiration hazard: Data not available
Potential health effects:
 Inhalation: Inhalation of this material is irritating and/or corrosive to the nose, throat and lungs. It may also cause burns to the respiratory tract with the production of lung edema which can result in shortness of breath, wheezing, choking, chest pain and impairment of lung function. Inhalation of high concentrations may result in permanent lung damage. Repeated inhalation may cause bronchitis, and also etching of dental enamel followed by the erosion of the enamel and dentine with loss of tooth substance.
 Ingestion: Ingestion may cause irritation and/or burns to the entire gastrointestinal tract, including the stomach and intestines, characterized by nausea, vomiting, diarrhea, abdominal pain, bleeding and/or tissue ulceration.
 Skin: Skin contact can cause severe irritation and/or burns characterized by redness, swelling and scab formation.
 Eyes: Severe irritation and/or burns can occur following eye exposure. Contact may cause impairment of vision and corneal damage.
Signs and symptoms of exposure: Burning sensation, cough, wheezing, laryngitis, shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.
Additional information: RTECS #: WS560000

Section 7 Ecotoxicology

Toxicity to fish: LC50 - Gambusia affinis (Mosquito fish) - 42 mg/l - 96 h (sulfuric acid)
Toxicity to daphnia and other aquatic invertebrates: Crangon crangon (crustacea) 70-80 mg/l/48 hours
Toxicity to algae: No data available
Persistence and degradability: No data available
Bioaccumulative potential: No data available
Mobility in soil: No data available
PBT and vPvB assessment: No data available
Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 8 Disposal


These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 9 Regulatory Information

UN/NA number: UN1830 **Shipping name:** Sulfuric acid
Hazard class: 8 **Packing group:** II **Reportable Quantity:** 1,000 lbs (454 kg) **Marine pollutant:** No
Exceptions: Limited quantity equal to or less than 1 L **2012 ERG Guide #** 137

Section 10 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERCLA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Sulfuric acid	Listed	1000 lbs (454 kg)	D002	Listed	Not listed	E; D1A 

Section 11 Information on Ingredients

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure.

Safety Data Sheet

Sulfuric Acid, Concentrated 18 M

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Sulfuric Acid, Concentrated 18 M
Recommended Use: Science education applications
Synonyms: Oil of Vitriol; Hydrogen Sulfate
Distributor: Carolina Biological Supply Company, 2700 York Road, Burlington, NC 27215-3398
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

DANGER



Causes severe skin burns and eye damage. Causes serious eye damage. Toxic if inhaled. May cause cancer. Harmful to aquatic life.

GHS Classification:

Skin Corrosion/Irritation Category 1A, Serious Eye Damage/Eye Irritation Category 1, Carcinogenicity Category 1A, Acute Toxicity - Inhalation Vapor Category 2, Acute Toxicity - Inhalation Dust / Mist Category 3, Hazardous to the aquatic environment - Acute Category 3

Other Safety Precautions: IF exposed or concerned: Get medical advice/attention.

Acute Toxicity Dermal Contains 100 % of the mixture consists of ingredient(s) of unknown toxicity

Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Sulfuric Acid	7664-93-9	98

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Eyes: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Skin Contact: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
Ingestion: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

Section 5 Firefighting Procedures

Extinguishing Media: Use dry chemical, CO2 or appropriate foam.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Non-combustible but contact with water or moisture may generate sufficient heat to ignite combustible materials Contact with water produces sulfuric acid.
Hazardous Combustion Products: Sulfur Oxides

Section 6 Spill or Leak Procedures

Safety Data Sheet

Steps to Take in Case Material Is Released or Spilled:

Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including: the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill.

Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Use appropriate personal protective equipment as stated in Section 8 of this MSDS. Advise the Environmental Protection Agency (EPA) and appropriate state agencies, if required. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Vacuum or sweep up material and place in a disposal container.

Section 7 Handling and Storage

Handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection. Never add water to this product.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Storage Code: White - Corrosive. Separate acids from bases; separate oxidizer acids from organic acids.

Section 8 Protection Information

Chemical Name	ACGIH		OSHA PEL	
	(TWA)	(STEL)	(TWA)	(STEL)
Sulfuric Acid	0.2 mg/m ³ TWA (thoracic fraction)	N/A	1 mg/m ³ TWA	N/A

Control Parameters

Engineering Measures: Local exhaust ventilation, process enclosures, or other engineering controls are necessary when handling or using this product to avoid overexposure.

Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.

Respiratory Protection: Respiratory protection may be required to avoid overexposure when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms.

Respirator Type(s): NIOSH approved air purifying respirator with acid gas cartridge and dust/mist filter

Eye Protection: Wear chemical splash goggles when handling this product. Additionally, wear a face shield when the possibility of splashing of liquid exists. Have an eye wash station available.

Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: Nitrile - Extra Thick (8 mm)

Section 9 Physical Data

Formula: H ₂ SO ₄	Vapor Pressure: 0.7 hPa at 25°C
Molecular Weight: 98.08	Evaporation Rate (BuAc=1): No data available
Appearance: Colorless, Oily Liquid	Vapor Density (Air=1): No data available
Odor: Strong Pungent	Specific Gravity: 1.834-1.836 at 20°C
Odor Threshold: No data available	Solubility in Water: Soluble
pH: -1.26	Log Pow (calculated): No data available
Melting Point: 10 C	Autoignition Temperature: No data available
Boiling Point: 280 C	Decomposition Temperature: No data available
Flash Point: No data available	Viscosity: 0.24
Flammable Limits in Air: No data available	Percent Volatile by Volume: No data available

Section 10 Reactivity Data

Reactivity: Moderately reactive - See below

Chemical Stability: Stable under normal conditions.

Safety Data Sheet

Conditions to Avoid: Contact with water
Incompatible Materials: Water, Organic Compounds, Strong reducing agents, Acetaldehydes, Amines
Hazardous Decomposition Products: Sulfur Oxides
Hazardous Polymerization: Will not occur

Section 11 Toxicity Data

Routes of Entry: Inhalation.
Symptoms (Acute): Respiratory disorders
Delayed Effects: Dental Erosion

Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Sulfuric Acid	7664-93-9	Oral LD50 Rat 2140 mg/kg	Not applicable	INHALATION LC50-1H Rat 347 ppm INHALATION LC50-2H Rat 510 MG/M3 INHALATION LC50-2H Mouse 320 MG/M3

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Sulfuric Acid	7664-93-9	Not listed	Not listed	Listed

Chronic Effects:

Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: No information available
Chronic: Respiratory system

Section 12 Ecological Data

Overview: Slight ecological hazard. In high concentrations, this product may be dangerous to plants and/or wildlife.
Mobility: This material is expected to have high mobility in soil. It absorbs weakly to most soil types.
Persistence: Biodegradation, adsorption to sediment, and bioconcentration to aquatic organisms should not be significant.
Bioaccumulation: Bioconcentration is not expected to occur.
Degradability: No data
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
Sulfuric Acid	7664-93-9	96 HR LC50 BRACHYDANIO RERIO > 500 MG/L [STATIC] 24 HR EC50 DAPHNIA MAGNA 29 MG/L

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): If discarded, this product is considered a RCRA corrosive waste, D002.

Section 14 Transport Information

Ground - DOT Proper Shipping Name:	Air - IATA Proper Shipping Name:
UN1830	UN1830

Safety Data Sheet

Sulfuric Acid
Class 8
P.G. II

Sulfuric Acid
Class 8
P.G. II

Section 15

Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Sulfuric Acid	7664-93-9	Sulfuric acid	1000 lb RQ	1000 lb final RQ; 454 kg final RQ	1000 lb TPQ	No

California Prop 65: WARNING: This product contains a chemical known to the state of California to cause cancer.

Section 16

Additional Information

Revised: 04/01/2013

Replaces: 03/19/2013

Printed: 06-21-2013

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health

1. Product and Company Identification

Product identifier **Super Sani-Cloth Germicidal Wipe** **SDS 0020-00**
 Other means of identification Not available
 Recommended use Disinfectant
 Recommended restrictions For Professional and Hospital Use

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Professional Disposables International, Inc.
 Address Two Nice-Pak Park
 Orangeburg, NY 10962-1376
 Telephone Phone (USA) 1-845-365-1700 (M-F 9am - 5pm)
 Emergency Phone: 1-800-999-6423
 E-mail www.pdihc.com
 Emergency phone number 1-800-999-6423

2. Hazards Identification

Physical hazards Flammable solids Category 1
 Health hazards Serious eye damage/eye irritation Category 2A
 Environmental hazards Not determined
 OSHA defined hazards None additional

Not applicable.

Label elements



Signal word Danger
 Hazard statement Flammable solid.
 Causes serious eye irritation.

Precautionary statement

Prevention Read label before use.
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 Wash thoroughly after handling.
Response If in eyes: Rinse cautiously with water for 15 - 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
 In case of fire: Use appropriate media to extinguish.
Storage Store away from incompatible materials.
Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information Not applicable.

3. Composition/Information on Ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Isopropyl Alcohol		67-63-0	55
n-Alkyl (60% C14, 32% C16, 5% C12, 5% C18) dimethyl benzyl ammonium chlorides		68391-01-5	0.25
n-Alkyl (68% C12, 32% C14) dimethyl ethylbenzyl ammonium chlorides		68956-79-6	0.25

4. First Aid Measures

Inhalation	Not a normal route of exposure. If inhaled, remove to fresh air. Get medical attention if symptoms develop.
Skin contact	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes.
Eye contact	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
Ingestion	Not a likely route of exposure. If ingestion does occur, call a poison control center or doctor for treatment advice.
Most important symptoms/effects, acute and delayed	Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
Indication of immediate medical attention and special treatment needed	Treat patient symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Avoid contact with eyes.

5. Fire Fighting Measures

Suitable extinguishing media	Water. Water fog. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.
Fire-fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. In the event of fire, cool product with water spray. Move product from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials. Move products from fire area if you can do so without risk. Cool containers exposed to flames with water until well after the fire is out. In the event of fire and/or explosion do not breathe fumes.
General fire hazards	Flammable solid.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Wear appropriate protective equipment and clothing during clean-up. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Pick up and discard towelette. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and Storage

Precautions for safe handling	Not a skin wipe. For use on hard non-porous surfaces only. Do not use or store near heat or open flame. Use according to package label instructions. Use good industrial hygiene practices in handling this product. Wear appropriate personal protective equipment. Wash thoroughly after handling. When using do not eat or drink.
Conditions for safe storage, including any incompatibilities	Do not contaminate water, food or feed by storage or disposal. When not in use keep container closed to prevent moisture loss. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure Controls/Personal Protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Isopropyl Alcohol (CAS 67-63-0)	PEL	980 mg/m ³
		400 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Isopropyl Alcohol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Isopropyl Alcohol (CAS 67-63-0)	STEL	1225 mg/m ³
		500 ppm
	TWA	980 mg/m ³ 400 ppm

Biological limit values

ACGIH Biological Exposure Indices				
Components	Value	Determinant	Specimen	Sampling Time
Isopropyl Alcohol (CAS 67-63-0)	40 mg/l	Acetone	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines	Chemicals listed in section 3 that are not listed here do not have established limit values for ACGIH or OSHA PEL.
Appropriate engineering controls	Provide eyewash station. Ensure adequate ventilation.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear eye protection as appropriate.
Skin protection	
Hand protection	Wear disposable protective gloves as appropriate.
Other	As required by employer code.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Not available.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and immediately after handling the product. When using do not eat or drink. When using do not smoke.

9. Physical and Chemical Properties

Appearance	Liquid saturated on wipe
Physical state	Solid.
Form	Solid.
Color	Colorless to Slightly yellow
Odor	Alcohol
Odor threshold	Not available.
pH	5.75 - 8.50
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Pour point	Not available.
Specific gravity	0.892
Partition coefficient (n-octanol/water)	Not available.
Flash point	75.0 °F (23.9 °C) (Liquid)
Evaporation rate	Not available.
Flammability (solid, gas)	Flammable solid.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.

Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and Reactivity

Reactivity	Do not use on natural marble, windows, unpainted wood or brass, clear plastic or colored grout. This product may react with strong acids and strong oxidizing agents.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Contact with incompatible materials. Heat, flames and sparks.
Incompatible materials	Strong oxidizing agents. Acids. Isocyanates. Chlorine.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon. Ammonia. Chloride compounds

11. Toxicological Information

Information on likely routes of exposure

Ingestion	Harmful if swallowed.
Inhalation	Health injuries are not known or expected under normal use.
Skin contact	Non-irritating based on test data.
Eye contact	Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics
Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
Isopropyl Alcohol (CAS 67-63-0)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	12800 mg/kg
<i>Inhalation</i>		
LC50	Rat	16970 mg/l/4h
<i>Oral</i>		
LD50	Dog	4797 mg/kg
	Mouse	3600 mg/kg
	Rabbit	5030 mg/kg
	Rat	4396 mg/kg
n-Alkyl (60% C14, 32% C16, 5% C12, 5% C18) dimethyl benzyl ammonium chlorides (CAS 68391-01-5)		
Acute		
<i>Dermal</i>		
LD50	Rat	2000 mg/kg
		1420 mg/kg
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Mouse	150 mg/kg
	Rat	240 mg/kg

Components	Species	Test Results
n-Alkyl (68% C12, 32% C14) dimethyl ethylbenzyl ammonium chlorides (CAS 68956-79-6)		
Acute		
<i>Dermal</i>		
LD50	Not available	
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Rat	250 mg/kg
Skin corrosion/irritation	Non-irritating based on test data.	
Exposure minutes	Not available.	
Erythema value	Not available.	
Oedema value	Not available.	
Serious eye damage/eye irritation	Causes serious eye irritation based on test results.	
Corneal opacity value	Not available.	
Iris lesion value	Not available.	
Conjunctival reddening value	Not available.	
Conjunctival oedema value	Not available.	
Recover days	Not available.	
Respiratory or skin sensitization		
Respiratory sensitization	Not available.	
Skin sensitization	Not applicable.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.	
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		
Not listed.		
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	Narcotic effects.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Not classified.	
Chronic effects	Prolonged inhalation may be harmful.	
Further information	Not available.	

12. Ecological Information

Ecotoxicity	See below		
Components	Species	Test Results	
Isopropyl Alcohol (CAS 67-63-0)			
Algae	IC50	Algae	1000 mg/L, 72 Hours
Crustacea	EC50	Daphnia	13299 mg/L, 48 Hours
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	> 1400 mg/l, 96 hours
Persistence and degradability	No data is available on the degradability of this product.		
Bioaccumulative potential	No data available.		
Partition coefficient n-octanol / water (log Kow)			
Isopropyl Alcohol		0.05	
Mobility in soil	No data available.		
Mobility in general	Not available.		
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.		

13. Disposal Considerations

Disposal instructions	Follow container label directions carefully. Do not reuse towelette. Dispose of used towelette in trash. Do not flush in toilet. Nonrefillable container. Do not reuse or refill this container. Triple rinse and offer for recycling. If recycling is not available, put in trash collection. Review federal, state/provincial, and local government requirements prior to disposal. Dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container.
Local disposal regulations	See above
Hazardous waste code	Assign as required.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

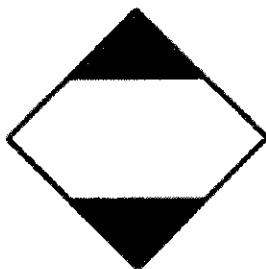
14. Transport Information

U.S. Department of Transportation (DOT)

Basic shipping requirements:

UN number	UN3175
Proper shipping name	Solids containing flammable liquid, n.o.s. (Isopropyl Alcohol)
Hazard class	4.1
Packing group	II
Packaging exceptions	<1kg - limited quantity (par. 173.151)

DOT



15. Regulatory Information

US federal regulations

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

PRECAUTIONARY STATEMENTS:

Hazards to Humans and Domestic Animals. Warning: Causes substantial but temporary eye damage. Do not get in eyes or on clothing. Avoid contact with skin. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using restroom. Remove and wash contaminated clothing before reuse.

EPA Reg. # 9480-4

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Isopropyl Alcohol (CAS 67-63-0) Listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No
--------------------------	--

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Isopropyl Alcohol	67-63-0	55

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

US - California Hazardous Substances (Director's): Listed substance

Isopropyl Alcohol (CAS 67-63-0) Listed.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

US - Illinois Chemical Safety Act: Listed substance

Isopropyl Alcohol (CAS 67-63-0) Listed.

US - Louisiana Spill Reporting: Listed substance

Isopropyl Alcohol (CAS 67-63-0) Listed.

US - Minnesota Haz Subs: Listed substance

Isopropyl Alcohol (CAS 67-63-0) Listed.

US - New Jersey RTK - Substances: Listed substance

Isopropyl Alcohol (CAS 67-63-0) Listed.

US - Texas Effects Screening Levels: Listed substance

Isopropyl Alcohol (CAS 67-63-0) Listed.

n-Alkyl (60% C14, 32% C16, 5% C12, 5% C18) Listed.

dimethyl benzyl ammonium chlorides (CAS 68391-01-5)

US. Massachusetts RTK - Substance List

Isopropyl Alcohol (CAS 67-63-0) Listed.

US. Pennsylvania RTK - Hazardous Substances

Isopropyl Alcohol (CAS 67-63-0) Listed.

US. Rhode Island RTK

Isopropyl Alcohol (CAS 67-63-0) Listed.

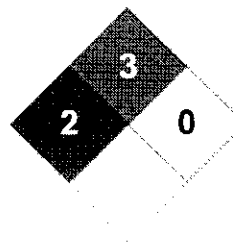
Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

16. Other Information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

HEALTH	/ 2
FLAMMABILITY	3
PHYSICAL HAZARD	0
PERSONAL PROTECTION	X



Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

Issue date

27-March-2015

Further information

For any questions surrounding this SDS, please contact the supplier/manufacturer listed on the first page of the document.

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Not for use on skin. Not a baby wipe. For use on hard surfaces only.

Do not use on natural marble, windows, unpainted wood, brass, clear plastic or coloured grout.

Revision 1. Changed eye toxicity categorization to Category 2A and revised transportation section. Also changed bulk liquid number and made other miscellaneous changes.

Based on bulk liquid # 4FQ51801.

Other information

This Safety Data Sheet was prepared to comply with the current OSHA Hazard Communication Standard (HCS) adoption of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Prepared by

Dell Tech Laboratories, Ltd. Phone: (519) 858-5021

SAFETY DATA SHEET

State Industrial Products

5915 Landerbrook Drive
Mayfield Heights, OH 44124
To Order Call: 1-866-747-2229

6935 Davand Drive
Mississauga, Ontario L5T 1L5
To Order Call: 1-800-668-6513

Royal Industrial Park, Bldg "M"
Local #5, Carr 869, km 1.5 Palmas
Cataño, P.R. 00962
To Order Call: 787-275-3185



1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: SUPERHOT COMPLETE
Product Description: A boiler treatment product.
EPA Registration Number: NA

24 Hour Emergency CHEMTREC Number: 800-424-9300
MSDS Number: 121342
EPA Establishment Number: NA

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

FIFRA Hazard Classification:

Not Applicable

Skin corrosion/irritation: Category 1A, B, C

Acute toxicity; inhalation: Category 4

Acute toxicity; oral: Category 4

Corrosive to metals: Category 1



Corrosive

Exclamation
Mark

DANGER

Hazard Statements:

H314 Causes severe skin burns and eye damage. H332_3 Harmful if inhaled. H302_1 Harmful if swallowed. H290 May be corrosive to metals.

Precautionary Statements:

P234 Keep only in original container. P261 Avoid breathing vapors. P264 Wash hands thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves, protective clothing, and eye protection.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous Ingredients</u>	<u>CAS Number</u>	<u>Weight</u>	<u>ACGIH</u>	<u>OSHA</u>
Potassium Hydroxide	1310-58-3	<10%	2 mg/m ³	2 mg/m ³
Sodium Molybdate Dihydrate	10102-40-6	<5%	0.5 mg/m ³ TWA	5 mg/m ³ PEL
Polymer	Polymer (Proprietary)	<2%	NE	NE

The exact percentages have
been withheld as a trade secret.

4. FIRST AID MEASURES

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P302+P352 IF ON SKIN: Wash with plenty of soap and water. P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P312 Call a POISON CENTER or physician if you feel unwell. P332+P313 IF SKIN irritation occurs: Get medical attention. P390 Absorb spillage to prevent material damage.

5. FIRE FIGHTING MEASURES

Flashpoint(Method): >200°F [93°C]

Lower Explosive Limit(LEL): NA Upper Explosive Limit(UEL): NA Autoignition Temperature: NA

Flammable Properties: Toxic fumes may evolve on burning.

Extinguishing Media: Carbon Dioxide, dry chemical, foam.

Fire Fighting Instructions: Wear a self-contained breathing apparatus with full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Ventilate area. Halt spill at source, dike and contain spill. Flush with plenty of water to drain. Dispose of in accordance with Federal, State and Local Regulations regarding waste disposal.

7. HANDLING AND STORAGE

P405 Store locked up. P406 Store in corrosive resistant container with a resistant inner liner.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Use general or local ventilation to keep exposure levels below exposure limits.

Personal Protective Equipment:

Respiratory: Normal room ventilation is adequate. Use a NIOSH/MHSA approved respirator if exposure limits are exceeded.

Eye: Wear approved safety glasses or goggles with unperforated eyeshields where splashing may occur.

Skin: For repeated or prolonged contact, wear chemically impervious gloves such as Nitrile.

Other: An emergency eyewash station or source of clean potable water should be available in case of accidental eye contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear to light amber
Physical State: Liquid.
Solubility in Water: 100%
Boiling Point: NA
Freezing Point: NA
Melting Point: NA

Odor: Amine
pH: >13.0
Diluted pH: NA
Specific Gravity: NA
VOC Content: 0%

10. STABILITY AND REACTIVITY

Stability: Stable
Hazardous Polymerization: Will not occur.
Conditions to Avoid: Do not mix with any other chemicals.
Incompatibility: Strong acids or bases may deactivate.
Hazardous Decomposition Products: Carbon Dioxide, Carbon Monoxide

11. TOXICOLOGICAL INFORMATION

This product contains no ingredient at 0.1% or greater that is listed as a human carcinogen.

<u>Hazardous Ingredients</u>	<u>CAS Number</u>	<u>LD50</u>	<u>LC50</u>
Potassium Hydroxide	1310-58-3	365 mg/kg (oral rat)	179 mg/l/96 hr (flathead minnow)
Sodium Molybdate Dihydrate	10102-40-6	NE	7600 mg/l, acute 96 hr, rainbow trout
Polymer	Polymer (Proprietary)	NE	NE

12. ECOLOGICAL INFORMATION

This product is toxic to fish.

13. DISPOSAL CONSIDERATIONS

P501 Dispose of container in accordance with all Federal, State and Local Regulations regarding waste disposal.

14. TRANSPORT INFORMATION

DOT Shipping Data: For gallon sizes and smaller: Limited Quantity; For pail and drum sizes: UN1760, CORROSIVE LIQUIDS, N.O.S. (Potassium Hydroxide), 8, III

Canadian TDG: Shipped in accordance with 49 CFR as part of a transborder shipment authorized under Section 5.2 (1) of the Canadian Transportation of Dangerous Goods.

For International Shipments by Air:

For International Shipments by Vessel: For gallon sizes and smaller: Limited Quantity; For pail and drum sizes: UN1760, CORROSIVE LIQUIDS, N.O.S. (Potassium Hydroxide), 8, III

15. REGULATORY INFORMATION

TSCA: All ingredients in this product are listed or exempt from listing on the TSCA Chemical Inventory.

CEPA: All ingredients in this product are listed or exempt from listing on the Canadian DSL/NDSL.

Proposition 65: Raw materials used in this product have identified the opportunity for the presence of trace levels of the following California Proposition 65 chemicals known to the state of California to cause cancer, birth defects or other reproductive harm: Arsenic (7440-38-2).

SARA 313: This product contains no toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40CFR372).

VOC: 0%

HMIS RATING: HEALTH = 3 FLAMMABILITY = 0 REACTIVITY = 0 PPE = B

WHMIS RATING: See hazards identified in Section 2 above.

16. OTHER INFORMATION

NA = Not Available or Not Applicable

NE = Not Established

Read and follow all label directions and precautions before using the product. This product is intended for industrial and institutional use only. NOT FOR HOUSEHOLD USE OR RESALE. KEEP OUT OF THE REACH OF CHILDREN. While we believe that the data contained herein is factual and the opinions expressed are those of qualified experts, the data are not to be taken as a warranty or representation for which the company assumes legal responsibility. They are offered solely for your consideration, investigation, and verification. Any use of these data and information must be determined by the user to be in accordance with applicable Federal, State, and Local Laws and regulations.

Prepared On: 03/02/2023

Replaces: 09/01/2014

FICHE SIGNALÉTIQUE DE SÉCURITÉ

State Industrial Products

5915 Landerbrook Drive
Mayfield Heights, OH 44124
To Order Call: 1-866-747-2229

6935 Davand Drive
Mississauga, Ontario L5T 1L5
To Order Call: 1-800-668-6513

Royal Industrial Park, Bldg "M"
Local #5, Carr 869, km 1.5 Palmas
Cataño, P.R. 00962
To Order Call: 787-275-3185



1. IDENTIFICATION DU PRODUIT CHIMIQUE ET DE LA SOCIÉTÉ

Nom du produit : SUPERHOT COMPLETE
Description du produit : Un produit de traitement de chaudière.
EPA Registration Number : NA

Numéro d'urgence CHEMTREC 24 h/24 : 800-424-9300
Numéro de la fiche signalétique de produit : 121342
EPA Establishment Number : NA

2. IDENTIFICATION DES DANGERS

VUE GÉNÉRALE D'URGENCE



Corrosif

Point
d'exclamation

DANGER

Mention de danger:

H314 Provoque des brûlures de la peau et des lésions oculaires graves. H332_3 Nocif par inhalation. H302_1 Nocif en cas d'ingestion. H290 Peut être corrosif pour les métaux.

Conseils de prudence:

P234 Conserver uniquement dans le récipient d'origine. P261 Éviter de respirer les vapeurs. P264 Se laver soigneusement la peau après manutention.
P271 Utiliser seulement en plein air ou dans un endroit bien ventilé. P280 Porter des gants de protection, des vêtements de protection, une protection oculaire.

3. COMPOSITION/INFORMATION SUR LES INGRÉDIENTS

Ingrédients dangereux	Numéro CAS	Poids	ACGIH	OSHA
Potassium Hydroxide	1310-58-3	<10%	2 mg/m ³	2 mg/m ³
Sodium Molybdate Dihydrate	10102-40-6	<5%	0.5 mg/m ³ TWA	5 mg/m ³ PEL
Polymer	Polymer (Proprietary)	<2%	NE	NE

The exact percentages have
been withheld as a trade secret.

4. PREMIERS SOINS

P301+P330+P331 EN CAS D'INGESTION : Rincer la bouche. NE PAS faire vomir. P302+P352 EN CAS DE CONTACT AVEC LA PEAU: laver abondamment à l'eau et au savon. P304+P340 EN CAS D'INHALATION : Transporter la victime à l'extérieur et la maintenir au repos dans une position où elle peut confortablement respirer. P305+P351+P338 EN CAS DE CONTACT AVEC LES YEUX: rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer. P312 Appeler un CENTRE ANTIPOISON ou un médecin en cas de malaise. P332+P313 En cas d'irritation cutanée: consulter un médecin. P390 Absorber toute substance répandue pour éviter qu'elle attaque les matériaux environnants.

5. EN CAS D'INCENDIE

Point d'éclair : >200°F [93°C]
Limite d'explosivité inférieure (LIE) : NA Limite d'explosivité supérieure (LSE) : NA
Température d'auto-inflammation : NA
Propriétés d'inflammabilité : aucune présumée
Moyens d'extinction : Dioxyde de carbone, poudre chimique, mousse extinctrice.
Lutte contre l'incendie : Porter un appareil respiratoire autonome et des vêtements de protection complète.

6. ÉMISSIONS ACCIDENTELLES

Ventiler la zone. Interrompre le déversement à la source, l'endiguer et le contenir. Évacuer à grande eau. Éliminer conformément aux réglementations fédérale, provinciale et locale en vigueur en matière d'élimination des déchets

7. MANIPULATION ET CONSERVATION

P405 Entreposer dans un endroit verrouillé. P406 Entreposer dans un contenant résistant à la corrosion muni d'un revêtement intérieur non corrosif.

8. EXPOSITION/PROTECTION INDIVIDUELLE

Moyens techniques : Assurer une ventilation forcée adéquate pour maintenir l'exposition en deçà de la valeur limite d'exposition.
Équipement de protection individuelle :
Respiratoire : La ventilation normale est suffisante. Si les limites d'exposition sont dépassées, utiliser un appareil respiratoire agréé NIOSH/MSHA.
Oculaire : Porter des lunettes de protection homologuées munies d'écrans latéraux non perforés.
Cutanée : En cas de contact répété ou prolongé, porter des gants de protection chimique.
Autre : Un bassin oculaire d'urgence ou une source d'eau potable propre devrait être prêt à être utilisé en cas de contact oculaire accidentel.

9. PROPRIÉTÉS PHYSIQUES ET CHIMIQUES

Aspect : Effacer à ambre clair
État de la matière : Liquide
Solubilité dans l'eau : 100%
Contenu de VOC : 0%

Odeur : Amine
Concentrer pH : >13.0
Dilué pH : NA
Densité : ~ 9.09 lbs/gal
Point de congélation/fusion : NA / NA

10. STABILITÉ ET RÉACTIVITÉ

Stabilité : Stable
Polymérisation dangereuse : Ne se produira pas.
Conditions à éviter : Ne pas mélanger avec d'autres produits chimiques.
Incompatibilité : les acides ou les bases fortes peuvent avoir un effet désactivant.
Produits de décomposition dangereuse : Monoxyde de carbone, dioxyde de carbone.

11. INFORMATIONS TOXICOLOGIQUES

Ce produit ne contient aucun ingrédient déclaré cancérigène humain à des teneurs supérieures ou égales à 0,1 %.

<u>Ingrédients dangereux</u>	<u>Numéro CAS</u>	<u>LD50</u>	<u>LC50</u>
Potassium Hydroxide	1310-58-3	365 mg/kg (oral rat)	179 mg/l/96 hr (flathead minnow)
Sodium Molybdate Dihydrate	10102-40-6	NE	7600 mg/l, acute 96 hr, rainbow trout
Polymer	Polymer (Proprietary)	NE	NE

12. INFORMATIONS ÉCOLOGIQUES

Ce produit est toxique pour les poissons.

13. DESTRUCTION

P501 Éliminer le contenant conformément à tous les règlements fédéraux, d'État et locales en matière d'élimination des déchets.

14. TRANSPORT

INFORMATION DE TRANSPORT D.O.T. : Pour les contenants d'un gallon et moins : Quantité limitée. Pour les seaux et les barils : UN1760, LIQUIDES CORROSIFS, N.S.A. (hydroxyde de potassium), 8, III.
TMD AU CANADA : Expédié en conformité au 49 CFR comme élément d'une cargaison transfrontière émis sous la Section 5.2 (1) de la loi canadienne sur le transport des marchandises dangereuses.
Pour les expéditions internationales par Air :
Pour les expéditions internationales par Vessel : Pour les contenants d'un gallon et moins : Quantité limitée. Pour les seaux et les barils : UN1760, LIQUIDES CORROSIFS, N.S.A. (hydroxyde de potassium), 8, III.

15. INFORMATIONS RÉGLEMENTAIRES

TSCA : Tous les ingrédients contenus dans ce produit figurent ou sont exempts de figurer sur l'inventaire du TSCA.
CEPA : Tous les ingrédients contenus dans ce produit figurent ou sont exempts de figurer sur la LIS et la LES (Canada).
Proposition 65 : Les matières premières utilisées dans ce produit ont identifié l'occasion pour la présence de niveaux de ce qui suit California Proposition 65 produits chimiques connus de l'état de Californie pour causer le cancer, des malformations congénitales ou d'autres anomalies de la reproduction trace: Arsenic (7440-38-2).
SARA 313 : Ne produit ne contient aucune substance chimique toxique devant être déclarée aux termes de la section 313 de la loi Emergency Planning and Community Right-To-Know Act de 1986 (40 CFR 372.65C).

CLASSIFICATION HMIS : SANTÉ = 3 INFLAMMABILITÉ = 0 RÉACTIVITÉ = 0 EPS = B

CLASSIFICATION SIMDUT : Voir les risques identifiés dans la section 2 ci-dessus.

16. AUTRES INFORMATIONS

néant = Non disponible ou sans objet
n.e. = Non établi

Lire et suivre toutes les instructions et les précautions d'emploi figurant sur l'étiquette avant d'utiliser le produit. Ces produits sont réservés uniquement à l'usage industriel et par les collectivités. CES PRODUITS NE SONT PAS DESTINÉS À L'USAGE DOMESTIQUE OU À LA REVENTE. GARDER HORS DE LA PORTÉE DES ENFANTS. Bien qu'à notre avis les informations énoncées ci-dessus soient réelles et que le jugement exprimé soit celui d'experts qualifiés, elles ne doivent pas être considérées comme une garantie ou une déclaration pour lesquelles la société assume une responsabilité légale. Ces informations sont données uniquement pour examen, investigation et vérification. L'utilisation des ces informations doit être déterminée par l'utilisateur conformément à la réglementation et à la loi fédérales, d'État et régionales applicables.

INFORMATIONS SUR LA SANTÉ ET LA SÉCURITÉ : (216) 861-7114

Date de Préparation: 03/02/2023 Remplace : 09/01/2014

PLANILLA DE DATOS DE SEGURIDAD

State Industrial Products

5915 Landerbrook Drive
Mayfield Heights, OH 44124
To Order Call: 1-866-747-2229

6935 Davand Drive
Mississauga, Ontario L5T 1L5
To Order Call: 1-800-668-6513

Royal Industrial Park, Bldg "M"
Local #5, Carr 869, km 1.5 Palmas
Cataño, P.R. 00962
To Order Call: 787-275-3185



1. PRODUCTO QUÍMICO Y DATOS DE LA COMPAÑÍA

Nombre del producto: SUPERHOT COMPLETE
Descripción del producto: Un tratamiento de la caldera.
EPA Registration Number: NA

Núm. CHEMTREC las 24 horas: 800-424-9300
Número MSDS: 121342
EPA Establishment Number: NA

2. ENUMERACIÓN DE PELIGROS

DESCRIPCIÓN GENERAL DE LAS SITUACIONES DE EMERGENCIA



Corrosivo

Signo de
exclamación

PELIGRO

H314 Provoca quemaduras graves en la piel y lesiones oculares graves. H332_3 Nocivo en caso de inhalación. H302_1 Nocivo en caso de ingestión. H290 Puede ser corrosivo para los metales.

P234 Mantener en el recipiente original. P261 Evitar respirar humo. P264 Lavar la piel meticulosamente después de la manipulación. P271 Utilizar únicamente en exteriores o en un lugar bien ventilado. P280 Llevar guantes protectores, ropa protectora, protección en los ojos.

3. COMPOSICIÓN/INFORMACIÓN SOBRE LOS COMPONENTES

Componentes peligrosos	Número CAS	Peso	ACGIH	OSHA
Potassium Hydroxide	1310-58-3	<10%	2 mg/m ³	2 mg/m ³
Sodium Molybdate Dihydrate	10102-40-6	<5%	0.5 mg/m ³ TWA	5 mg/m ³ PEL
Polymer	Polymer (Proprietary)	<2%	NE	NE

The exact percentages have
been withheld as a trade secret.

4. MEDIDAS DE PRIMEROS AUXILIOS

P301+P330+P331 EN CASO DE INGESTIÓN: Limpie la boca. NO provoque el vómito. P302+P352 EN CASO DE CONTACTO CON LA PIEL: Lavar con agua y jabón abundantes. P304+P340 EN CASO DE INHALACIÓN: Lleve a la víctima al aire fresco y Mantenga descansando en una posición cómoda para respirar. P305+P351+P338 EN CASO DE CONTACTO CON LOS OJOS: Aclarar cuidadosamente con agua durante varios minutos. Quitar las lentes de contacto, si lleva y resulta fácil. Seguir aclarando. P312 Llamar a un CENTRO DE INFORMACION TOXICOLOGICA o a un médico en caso de malestar. P332+P313 En caso de irritación cutánea: Consultar a un médico. P390 Absorber el vertido para que no dañe otros materiales.

5. MEDIDAS PARA COMBATIR INCENDIOS

Pto. inflamabilidad: >200°F [93°C]

Límite explosivo inferior (LEL): NA Límite explosivo superior (UEL): NA Temperatura de autoignición: NA

Inflamabilidad: No se espera ninguna.

Medio extinguidor: Dióxido de carbono, productos químicos en polvo, espuma.

Instrucciones para combatir el fuego: Use un aparato de respiración independiente con indumentaria de protección total.

6. MEDIDAS EN CASO DE DERRAME ACCIDENTAL

Ventile el área. Coloque una barrera física y contenga el derrame en el propio sitio de origen. Limpie el derrame con agua en abundancia y vierta todo por el drenaje. Obedezca todos los reglamentos federales, estatales y locales relativos a la disposición final de residuos.

7. MANIPULACIÓN Y ALMACENAMIENTO

P405 Almacenar bajo llave. P406 Almacenar en resistente al corrosivo contáiner con una línea interna resistente.

8. CONTROL DE EXPOSICIÓN/PROTECCIÓN PERSONAL

Controles de ingeniería: Prover suficiente ventilación mecánica para mantener la exposición por debajo del límite de concentración máxima (Threshold Limit Value, TLV).

Equipo de protección personal:

Respiratorio: Si el límite de exposición en el lugar de trabajo es excedido, se aconseja el uso de un respirador de aire ante la ausencia de control ambiental.

Ojos: Use gafas protectoras o gafas con protección lateral sin perforaciones aprobadas.

Piel: Si el contacto fuera prolongado o repetido, use guantes resistentes a productos químicos.

Otros: Una estación de lavajos de emergencia o una fuente de agua potable limpia debe estar disponible en caso de contacto accidental con los ojos.

9. PROPIEDADES FÍSICAS Y QUÍMICAS

Aspecto: Claro a ámbar pálido
Estado de agregación: Líquido
Solubilidad en agua: 100%

Olor: Amina
Concentrarse pH: >13.0
Diluido pH: NA

10. ESTABILIDAD Y REACTIVIDAD

Estabilidad: Estable

Polimerización peligrosa: No ocurrirá.

Condiciones a evitar: No mezcle con otros productos químicos.

Incompatibilidad: Los ácidos o bases fuertes podrían desactivar el producto.

Productos de descomposición peligrosos: Monóxido de carbono, Dióxido de carbono.

11. INFORMACIÓN TOXICOLÓGICA

Este producto no contiene ningún componente en 0.1% o más del que se señale como un carcinógeno humano.

<u>Componentes peligrosos</u>	<u>Número CAS</u>	<u>LD50</u>	<u>LC50</u>
Potassium Hydroxide	1310-58-3	365 mg/kg (oral rat)	179 mg/l/96 hr (flathead minnow)
Sodium Molybdate Dihydrate	10102-40-6	NE	7600 mg/l, acute 96 hr, rainbow trout
Polymer	Polymer (Proprietary)	NE	NE

12. INFORMACIÓN ECOLÓGICA

Este producto es tóxico para los peces.

13. SUGERENCIAS PARA SU DISPOSICIÓN FINAL

P501 Elimine el recipiente en conformidad con todas las regulaciones federales, estatales y locales relacionadas con la eliminación de residuos.

14. INFORMACIÓN SOBRE TRANSPORTE

DATOS DE EMBARQUE SEGÚN EL DOT (Ministerio de Transporte de los EE.UU.): Para tamaño galón o tamaños menores: Cantidad limitada Para tamaños balde y tonel: UN1760, LÍQUIDO CORROSIVO, NOS (Hidróxido de potasio), 8, III.

TDG CANADIENSE: Producto no regulado. Enviado de acuerdo con el 49 CFR, como parte de un envío internacional según la Sección 5.2 (1) de la Ley de Transporte de Mercancías Peligrosas de Canadá.

Para los envíos internacionales de Air:

Para los envíos internacionales de Vessel: Para tamaño galón o tamaños menores: Cantidad limitada Para tamaños balde y tonel: UN1760, LÍQUIDO CORROSIVO, NOS (Hidróxido de potasio), 8, III.

15. INFORMACIÓN SOBRE REGLAMENTOS

TSCA: Todos los químicos de este producto están catalogados o están exentos de ser catalogados en el inventario químico de la Ley de Control de Sustancias Tóxicas (Toxic Substances Control Act, TSCA).

CEPA: Todos los químicos de este producto están catalogados o están exentos de ser catalogados en el DSL/NDSL canadiense.

Propuesta 65: Las materias primas usadas en este producto APROBACIÓN-tienen la oportunidad para la presencia de trazas de los niveles de los siguientes California Proposición 65 productos químicos que en el estado de California a causa de cáncer, defectos de nacimiento y otros daños reproductivos: Arsénico (7440-38-2).

SARA 313: Este producto no contiene sustancias tóxicas sujetas a los requisitos de información del Artículo 313 de la ley de 1986 (40 CFR 372.65) de Planeamiento anteemergencias y Derecho a Estar Informado de la Comunidad.

CLASIFICACIÓN HMIS: SALUD = 3 INFLAMABILIDAD = 0 REACTIVIDAD = 0 EQUIPO DE PROTECCIÓN PERSONAL = B

CLASIFICACIÓN WHMIS: Ver los riesgos identificados en la Sección 2 anterior.

16. OTRA INFORMACIÓN

NA = No disponible o No se aplica

NE = No se ha establecido

Antes de utilizar este producto, lea y obedezca todas las instrucciones y precauciones. Este producto fue formulado para utilizarse únicamente en el ámbito industrial e institucional. NO ES PARA REVENTA NI PARA USO EN EL ÁMBITO HOGAREÑO. MANTENGA FUERA DEL ALCANCE DE LOS NIÑOS. Si bien se considera que los datos contenidos en esta planilla son correctos y las opiniones expresadas son las de calificados expertos, los datos no deberán considerarse como garantía ni como declaración por las que la compañía asume responsabilidad legal alguna. Estos datos se brindan sólo para evaluación, investigación y verificación por parte del cliente. El usuario es quien deberá determinar si cualquier uso que se dé a estos datos e información está de acuerdo con las leyes y reglamentos federales, estatales y locales aplicables.

INFORMACIÓN DE SEGURIDAD Y SALUD: (216) 861-7114

Preparado Encendido: 03/02/2023

Reemplaza: 09/01/2014

Safety Data Sheet

Date Issued: 7/1/2015

SECTION 1: IDENTIFICATION OF THE PREPARATION AND THE COMPANY

PRODUCT NAME: Supersorb

RECOMMENDED USE: Deodorizer

RESTRICTIONS ON USE: For intended use only

MANUFACTURER:

Fresh Products, LLC
4010 South Ave
Toledo
Ohio 43615
USA

TELEPHONE: +1-419-531-9741

FAX: +1-419-531-8472

EMERGENCY CONTACT (spill/release): 800-424-9300

ITEM NUMBER: Supersorb

Section 2: HAZARDS IDENTIFICATION

General: Contains small amounts of chemicals that are hazardous to health and the environment but in quantities too small to constitute any practical risks to health or the environment.

Classification: Acute Toxicity Oral 4
Skin Sensitization 1



WARNING

Hazard Phrases: H302: Harmful if swallowed.
H317: May cause allergic skin reaction.

Precautionary Phrases: P102: Keep out of reach of children.
P264: Wash hands thoroughly after handling.
P280: Wear suitable gloves.
P301+310: If swallowed, call physician
P302+P352: If on skin, wash with plenty of water.
P332+P313: If rash occurs, seek medical attention.
P501: Dispose of contents to an approved waste disposal plant.

SECTION 3: INGREDIENT INFORMATION

Chemical Identification: Scented light brown powder that turns liquids to solids.

Form/Shape: Bottle weighs approximately 340g.

CAS Number: Not applicable since the product is a preparation.

EINECS/ELINCS #: Not applicable since the product is a preparation.

The product is a complex mixture of substances of which the following have been classified as presenting

a health or environmental hazard or as having an occupational exposure limit within the meaning of the Directive 67/548/EEC or 1999/45/EC

Level (%)	CAS Nr	EC Nr	Substance	Hazard Classification	
				(Dir. 67/548/CE)	(Reg. CE 1272/2008)
35-50%	N/a	N/a	Cellulose		
35-50%	60323-79-7	N/a	Absorbent Polymer		
<1%	67-63-0	N/a	Isopropyl Alcohol		
1-5%	N/a	N/a	Fragrance		
C14-95%, C12-3%, C16-2%, dimethyl<1%	N/a	N/a	N-Alkyl		
N/a	139-08-02	N/a	Benzyl ammonium chloride dihydrate		
<1%	26172-55-4 & 2682-20-4	N/a	Microbiocide		

*Formulation information is considered a trade secret

SECTION 4: FIRST AID MEASURES

General: No specific acute effects or symptoms are known.

Inhalation: No acute effects expected. If person is feeling unwell, remove to fresh air.

Ingestion: Possibility of ingestion limited due to product form and difficulty to chew and ingest. In the event of ingestion, rinse mouth thoroughly with water.

Skin: Wash off with soap and water.

Eyes: Possibility of eye contact limited. In the event, wash thoroughly with water or approved eyewash.

SECTION 5: FIRE FIGHTING MEASURES

Extinguishing Media: Use extinguishing media appropriate for the surrounding fire. Water spray, fog or mist. Dry chemicals, sand etc.

Exposure Hazards : Thermal decomposition or burning may release a variety of products ranging from simple hydrocarbons to toxic/irritating gases including carbon monoxide and carbon dioxide. Full protective clothing should be worn before a confined fire space is entered. Self-contained breathing apparatus should be worn.

SECTION 6: ACCIDENTAL RELEASE MEASURES

No special requirements for accidental release required. Apply good housekeeping practices.

SECTION 7: HANDLING AND STORAGE

Usage Precautions: Follow normal good-housekeeping practices. Keep away from direct flames.

Storage Precautions: Keep in cool, dry conditions in original containers at no more than 30° C

SECTION 8: EXPOSURE CONTROL AND PERSONAL PROTECTION

Occupational Exposure limit: Not Established

Respiratory Protection: None required under normal usage

Protection: Although unexpected, avoid prolonged skin contact. Use chemically resistant gloves as needed.

Eye Protection: None required

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Cylindrical bottle with scented light brown powder.

Odor: Various

Odor Threshold: Not determined

Color: Light brown.

pH value: Not determined/applicable

Melting Pt: Estimated 60° C

Boiling Pt: Not applicable.

Flash pt: Not applicable.

Evaporation Rate: Not applicable.

Flammability: Not determined/applicable

UEL: Not determined

LEL: Not determined

Vapor Pressure: Not determined/applicable

Vapor Density: Not determined/applicable

Relative Density: Not determined

Solubility in water: Insoluble.

Partition Coefficient: Not determined

Autoignition Temperature: Not applicable

Decomposition Temperature: Not determined/applicable

SECTION 10: STABILITY AND REACTIVITY

Stability: Normally stable.

Conditions to avoid: Avoid extreme heat and naked flames.

Materials to avoid: Strong oxidizing agents.

Decomposition Products: None under normal storage conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Effects: Ingredients include a small quantity of volatile fragrance chemicals which may contain small amounts of substances that are harmful if swallowed and/or irritating to the eyes and skin.

Chronic Effects: None are known.

Health Risks:

INHALATION: Prolonged exposure to volatile ingredients is unlikely to cause irritation or other adverse health effects.

INGESTION: No practical risk of adverse health effects.

SKIN CONTACT: No practical risk of adverse health effects.

EYE CONTACT: No practical risk of adverse health effects.

SECTION 12: ECOLOGICAL INFORMATION

No specific information has been established regarding the product. However according to the conventional method of Directive 99/45/EC the product is classified as harmful to aquatic organisms, or causing long-term effects in the aquatic environment.

Ecotoxicity: N/A

Persistence and Degradability: N/A

Bioaccumulative Potential: N/A

Mobility in Soil: N/A

Other Adverse Effects: N/A

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with Local Authority requirements e.g., for used product, as household waste

SECTION 14: TRANSPORT INFORMATION

Product is not regulated as hazardous

DOT Classifications: Non Hazardous

UN-Number: N/A

UN Proper Shipping Name: N/A

Transport Hazard Class: N/A

Packing group: N/A

Marine Pollutant: N/A

Special Precautions with Transport: N/A

SECTION 15: REGULATORY INFORMATION

Classification, Packaging and Labeling according to Directive 99/45/EC

Signal word:

WARNING

Pictograms:

Exclamation mark

Hazard Phrases:

H302: Harmful if swallowed.

H317: May cause allergic skin reaction.

Precautionary Phrases:

P102: Keep out of reach of children.

P264: Wash hands thoroughly after handling.

P280: Wear suitable gloves.

P301+310: If swallowed, call physician

P302+P352: If on skin, wash with plenty of water.

P332+P313: If rash occurs, seek medical attention.

P501: Dispose of contents to an approved waste disposal plant.

SECTION 16: OTHER INFORMATION

This Safety Data Sheet was prepared to comply with the current OSHA Hazard Communication Standard (HCS) adoption of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
 Wear protective gloves/protective clothing/eye protection/face protection
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking
 Keep container tightly closed
 Ground/bond container and receiving equipment
 Use explosion-proof equipment
 Use only non-sparking tools
 Take precautionary measures against static discharge

Precautionary Statements - Response

If exposed or concerned: Get medical advice/attention
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If eye irritation persists: Get medical advice/attention
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 In case of fire: Use CO₂, dry chemical, or foam for extinction

Precautionary Statements - Storage

Store locked up
 Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other hazards

Toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%
Ethyl Alcohol	64-17-5	65.26

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First Aid Measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician if irritation persists.
Skin Contact	If skin irritation occurs, rinse affected area with water.
Inhalation	Remove to fresh air.
Ingestion	Drink 2-3 large glasses of water. Do NOT induce vomiting. Call a physician. Never give anything by mouth to an unconscious person.

Most important symptoms and effects

Symptoms	Contact may cause irritation and redness.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Flammable due to alcohol content.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Use personal protective equipment as required. Spills may be slippery.

Environmental precautions

Environmental precautions Collect spillage. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up Pick up with mop, wet/dry vac, or absorbent material. Rinse area with clear water and allow floor to dry before allowing traffic.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice. Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing and eye/face protection. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharges. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Keep container tightly closed. Use explosion proof equipment.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from heat, sparks, flame. Keep container closed when not in use. Store at room temperature. Keep from freezing.

Incompatible Materials Chlorine bleach.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ethyl Alcohol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m ³ (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m ³	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m ³

Appropriate engineering controls

Engineering Controls Apply technical measures to comply with the occupational exposure limits.

Individual protection measures, such as personal protective equipment

Eye/Face Protection When using product, do not rub eyes.

Skin and Body Protection No special technical protective measures are necessary.

Respiratory Protection No protective equipment is needed under normal use conditions.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid	Odor	Fruity Floral
Appearance	Clear liquid	Odor Threshold	Not determined
Color	Not determined		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	Not available	
Melting Point/Freezing Point	Not determined	
Boiling Point/Boiling Range	78 °C / 172 °F	
Flash Point	23 °C / 74 °F	
Evaporation Rate	> 1.0	CC (closed cup) (Water = 1)
Flammability (Solid, Gas)	n/a-liquid	
Flammability Limits in Air		
Upper Flammability Limits	Not available	
Lower Flammability Limit	Not available	
Vapor Pressure	Not determined	
Vapor Density	Not determined	
Relative Density	0.88	
Water Solubility	Infinite	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not determined	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to Avoid

Heat, flames and sparks.

Incompatible Materials

Chlorine bleach.

Hazardous Decomposition Products

None under normal use conditions.

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

Product Information	Product does not present an acute toxicity hazard based on known or supplied information
Eye Contact	Causes serious eye irritation.
Skin Contact	Not expected to be a skin irritant during prescribed use.
Inhalation	Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
Ingestion	Do not ingest.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Ethyl Alcohol 64-17-5	= 7060 mg/kg (Rat)	-	= 124.7 mg/L (Rat) 4 h
Water 7732-18-5	> 90 mL/kg (Rat)	-	-
Polydimethylsiloxane 63148-62-9	> 24 g/kg (Rat) > 17 g/kg (Rat)	> 2 g/kg (Rabbit)	-

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity Ethanol has been shown to be carcinogenic in long-term studies only when consumed as an alcoholic beverage.

Chemical Name	ACGIH	IARC	NTP	OSHA
Ethyl Alcohol 64-17-5	A3	Group 1	Known	X

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

NTP (National Toxicology Program)

Known - Known Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Numerical measures of toxicity

Not determined

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects.

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Ethyl Alcohol 64-17-5		13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 static 12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static	10800: 24 h Daphnia magna mg/L EC50 9268 - 14221: 48 h Daphnia magna mg/L LC50 2: 48 h Daphnia magna mg/L EC50 Static

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Chemical Name	Partition Coefficient
Ethyl Alcohol 64-17-5	-0.32

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

- Disposal of Wastes** Disposal should be in accordance with applicable regional, national and local laws and regulations.
- Contaminated Packaging** Disposal should be in accordance with applicable regional, national and local laws and regulations.

California Hazardous Waste Status

Chemical Name	California Hazardous Waste Status
Ethyl Alcohol 64-17-5	Toxic Ignitable

14. TRANSPORT INFORMATION

Note

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

UN/ID No UN1170
 Proper Shipping Name Ethanol solution
 Hazard Class 3
 Packing Group III

IATA

UN/ID No UN1170
 Proper Shipping Name Ethanol solution
 Hazard Class 3
 Packing Group III

IMDG

UN/ID No	UN1170
Proper Shipping Name	Ethanol solution
Hazard Class	3
Packing Group	III

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL/NDSL	EINECS/E LINCS	ENCS	IECSC	KECL	PICCS	AICS
Ethyl Alcohol	X	X	X	Present	X	Present	X	X
Water	X	X	X	X	X	Present	X	X
Polydimethylsiloxane	X	X			X	Present	X	X

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations**SARA 313**

Not determined

US State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
Ethyl Alcohol - 64-17-5	Carcinogen Developmental

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Ethyl Alcohol 64-17-5	X	X	X

16. OTHER INFORMATION

<u>NFPA</u>	Health Hazards	Flammability	Instability	Special Hazards
	0	3	0	Not determined
<u>HMIS</u>	Health Hazards	Flammability	Physical hazards	Personal Protection
	Not determined	Not determined	Not determined	Not determined

Issue Date: 27-Dec-2011
Revision Date: 22-Dic-2017
Revision Note: Telephone number update

Disclaimer

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End of Safety Data Sheet



Safety Data Sheet

Issue Date: 27-Dec-2011

Revision Date: 23-June-2020

Version 3

1. IDENTIFICATION

Product Identifier

Product Name Symmetry Green Certified Foaming Hand Wash

Other means of identification

SDS # BE-9009

Product Code 9009

Recommended use of the chemical and restrictions on use

Recommended Use Hand soap.

Details of the supplier of the safety data sheet

Supplier Address

Buckeye International, Inc.
2700 Wagner Place
Maryland Heights, MO 63043 USA

Emergency Telephone Number

Company Phone Number 1-314-291-1900

Emergency Telephone (24 hr)

(Transportation) Transportation - INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)
Medical - (International) 1-651-632-8956 (North America) 1-800-303-0441

2. HAZARDS IDENTIFICATION

Appearance Clear liquid

Physical State Liquid

Odor Floral fragrance added

Classification

This chemical does not meet the hazardous criteria set forth by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). However, this Safety Data Sheet (SDS) contains valuable information critical to the safe handling and proper use of this product. This SDS should be retained and available for employees and other users of this product.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Cocamide MEA	68140-00-1	<5
Bio-terge AS-40, Sodium Olefin Sulfonate	68439-57-6	<5

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

First Aid Measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician if irritation persists.
Skin Contact	If skin irritation occurs, rinse affected area with water.
Inhalation	Remove to fresh air.
Ingestion	Drink 2-3 large glasses of water. Do not induce vomiting. Call a physician. Never give anything by mouth to an unconscious person.

Most important symptoms and effects

Symptoms	Contact may cause irritation and redness.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Combustion products may be toxic.

Hazardous Combustion Products Carbon oxides. Oxides of sulfur.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions	Use personal protective equipment as required. Spills may be slippery.
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Methods and material for containment and cleaning up

Methods for Containment	Prevent further leakage or spillage if safe to do so.
Methods for Clean-Up	Pick up with mop, wet/dry vac, or absorbent material. Rinse area with clear water and allow floor to dry before allowing traffic.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Do not swallow. Do not get in eyes.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep container closed when not in use. Store at room temperature.

Incompatible Materials Chlorine bleach.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines No exposure limits noted for ingredient(s)

Appropriate engineering controls

Engineering Controls Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection When using product, do not rub eyes.

Skin and Body Protection No protective equipment is needed under normal use conditions.

Respiratory Protection No protective equipment is needed under normal use conditions.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid	Odor	Floral fragrance added
Appearance	Clear liquid	Odor Threshold	Not determined
Color	Not determined		
<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>	
pH	8.7± 0.5 (conc and dilution)		
Melting Point/Freezing Point	Not determined		
Boiling Point/Boiling Range	100 °C / 212 °F		
Flash Point	None		Tag Closed Cup (Water = 1)
Evaporation Rate	1.0		
Flammability (Solid, Gas)	n/a-liquid		
Upper Flammability Limits	Not applicable		
Lower Flammability Limit	Not applicable		
Vapor Pressure	Not determined		
Vapor Density	Not determined		
Specific Gravity	1.00		
Water Solubility	Miscible in water		
Solubility in other solvents	Not determined		
Partition Coefficient	Not determined		
Auto-ignition Temperature	Not determined		
Decomposition Temperature	Not determined		
Kinematic Viscosity	Not determined		
Dynamic Viscosity	Not determined		
Explosive Properties	Not determined		
Oxidizing Properties	Not determined		

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to Avoid

Incompatible Materials

Chlorine bleach.

Hazardous Decomposition Products

Carbon oxides. Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information Product does not present an acute toxicity hazard based on known or supplied information

Eye Contact Avoid contact with eyes.

Skin Contact Not expected to be a skin irritant during prescribed use.

Inhalation Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Ingestion Do not taste or swallow.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Cocamide MEA 68140-00-1	= 3300 mg/kg (Rat)	-	-
Bio-terge AS-40, Sodium Olefin Sulfonate 68439-57-6	= 2310 mg/kg (Rat)	= 6300 mg/kg (Rabbit)	-

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Numerical measures of toxicity

Not determined

12. ECOLOGICAL INFORMATION

Ecotoxicity

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Cocamide MEA 68140-00-1		28.5: 96 h Brachydanio rerio mg/L LC50 semi-static 31: 96 h Brachydanio rerio mg/L LC50		10: 24 h Daphnia magna mg/L EC50
Bio-terge AS-40, Sodium Olefin Sulfonate 68439-57-6		1.0 - 10.0: 96 h Brachydanio rerio mg/L LC50 static 12.2: 96 h Brachydanio rerio mg/L LC50 semi-static		

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Chemical Name	Partition Coefficient
Cocamide MEA 68140-00-1	3.89

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG Not regulated

15. REGULATORY INFORMATION

International Inventories

Not determined

US Federal Regulations

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

SARA 311/312 Hazard Categories

This material, as supplied, does not contain any substances subject to the requirements of SARA Sections 311/312 (40 CFR 370)

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

US State Regulations

U.S. State Right-to-Know Regulations

Not determined

16. OTHER INFORMATION

NFPA

Health Hazards

Flammability

Instability

Special Hazards

0

0

0

Not determined

HMIS

Health Hazards

Flammability

Physical Hazards

Personal Protection

Not determined

Not determined

Not determined

Not determined

Issue Date:

27-Dec-2011

Revision Date:

23-June-2020

Revision Note:

Regulatory Update

Disclaimer

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End of Safety Data Sheet

Safety Data Sheet

Synthetic D Antisera



Section 1 Product Description

Product Name: Synthetic D Antisera
Recommended Use: Science education applications
Synonyms: Inorganic Salts in Aqueous Solution
Distributor: Carolina Biological Supply Company
2700 York Road, Burlington, NC 27215
1-800-227-1150
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

No known OSHA hazards.

GHS Classification:

Other Safety Precautions: Not a dangerous substance according to GHS classification criteria.
May cause eye irritation.
May cause gastrointestinal discomfort.
May cause irritation to respiratory tract.
May cause irritation to skin.

Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
The composition of this mixture is proprietary and is protected as a Trade Secret.	N/A	100

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Skin Contact: After contact with skin, wash immediately with plenty of water.
Ingestion: If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use media suitable to extinguish surrounding fire.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Fire or excessive heat may produce hazardous decomposition products.
Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: No adverse health affects expected from the clean-up of spilled material. Follow personal protective equipment recommendations found in Section 8 of this (M)SDS. Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Absorb the liquid and scrub the area with detergent and water.

Safety Data Sheet

Section 7

Handling and Storage

Storage: Keep container tightly closed in a cool, well-ventilated place.
Storage Code: Green - general chemical storage

Section 8

Protection Information

<u>Chemical Name</u>	<u>ACGIH</u>		<u>OSHA PEL</u>	
	<u>(TWA)</u>	<u>(STEL)</u>	<u>(TWA)</u>	<u>(STEL)</u>
No data available	N/A	N/A	N/A	N/A

Control Parameters

Engineering Measures: No exposure limits exist for the constituents of this product. General room ventilation might be required to maintain operator comfort under normal conditions of use.

Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.

Respiratory Protection: No respiratory protection required under normal conditions of use.

Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: Natural latex,, Natural rubber, Neoprene, Nitrile, Polyvinyl chloride

Section 9

Physical Data

Formula: N/A	Vapor Pressure: N/A
Molecular Weight: N/A	Evaporation Rate (BuAc=1): N/A
Appearance: Depends upon product selection Liquid	Vapor Density (Air=1): N/A
Odor: No data available	Specific Gravity: N/A
Odor Threshold: No data available	Solubility in Water: Soluble
pH: No data available	Log Pow (calculated): No data available
Melting Point: No data available	Autoignition Temperature: No data available
Boiling Point: 100 C	Decomposition Temperature: No data available
Flash Point: No data available	Viscosity: No data available
Flammable Limits in Air: N/A	Percent Volatile by Volume: N/A

Section 10

Reactivity Data

Reactivity: No data available

Chemical Stability: Stable under normal conditions.

Conditions to Avoid: None known.

Hazardous Polymerization: Will not occur

Section 11

Toxicity Data

Routes of Entry: Ingestion, skin and eye contact.

Symptoms (Acute): N/A

Delayed Effects: No data available

Acute Toxicity:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Inhalation LC50</u>
No data available	N/A	Not determined	Not determined	Not determined

Carcinogenicity:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>IARC</u>	<u>NTP</u>	<u>OSHA</u>
No data available	N/A	Not listed	Not listed	Not listed

Safety Data Sheet

Chronic Effects:

Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: See Section 2
Chronic: N/A

Section 12

Ecological Data

Overview: This material is not expected to be harmful to the ecology.
Mobility: No data
Persistence: No data
Bioaccumulation: No data
Degradability: No data
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
N/A	N/A	

Section 13

Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): Not Determined

Section 14

Transport Information

Ground - DOT Proper Shipping Name:
Not regulated for transport by DOT.

Air - IATA Proper Shipping Name:
Not regulated for air transport by IATA.

Section 15

Regulatory Information

TSCA Status: A component (or components) of this product is not listed on the TSCA Inventory of Existing Chemical Substances. Product is for research and development use only.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
No data available	N/A	No	No	No	No	No

California Prop 65:

No California Proposition 65 ingredients

Section 16

Additional Information

Safety Data Sheet

Revised: 08/21/2018

Replaces: 06/15/2018

Printed: 08-25-2018

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health