

**Z**

**ZEP PREMIUM CARPET SHAMPO**

Version 1.2

Revision Date 04/20/2015

Print Date 04/21/2016

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Material name : ZEP PREMIUM CARPET SHAMPO

Material number : ZUPXC128

**Manufacturer or supplier's details**

Company : Zep Inc.

Address : 1310 Seaboard Industrial Blvd., NW  
Atlanta, GA 30318

Telephone : 404-352-1680

Emergency telephone numbers	
<b>For SDS Information</b>	: Compliance Services 1-877-428-9937
<b>For a Medical Emergency</b>	: 877-541-2016 Toll Free - All Calls Recorded
<b>For a Transportation Emergency</b>	: CHEMTREC: 800-424-9300 - All Calls Recorded. In the District of Columbia 202-483-7616

Note: This product is 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.

**SECTION 2. HAZARDS IDENTIFICATION****Emergency Overview**

Appearance	liquid
Colour	clear, colourless
Odour	sweet

**GHS Classification**

Eye irritation : Category 2A

**GHS Label element**

Hazard pictograms :



Signal word : Warning

Hazard statements : H319 Causes serious eye irritation.

Precautionary statements : **Prevention:**  
P264 Wash skin thoroughly after handling.  
P280 Wear eye protection/ face protection.  
**Response:**  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water

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for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/attention.

**Disposal:**

P501 Dispose of contents/container in accordance with local regulation.

**Potential Health Effects****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.

**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.

**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.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Hazardous components**

Chemical Name	CAS-No.	Concentration [%]
tetrasodium ethylenediaminetetraacetate	64-02-8	>= 1 - < 5
Alcohols, C10-14, ethoxylated	66455-15-0	>= 1 - < 5

**SECTION 4. FIRST AID MEASURES**

- General advice : Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.
- If inhaled : If unconscious place in recovery position and seek medical advice.  
If symptoms persist, call a physician.
- In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes.  
If on skin, rinse well with water.  
If on clothes, remove clothes.
- In case of eye contact : If in eyes, rinse with water for 15 minutes.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.

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If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.  
DO NOT induce vomiting unless directed to do so by a physician or poison control center.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.

**SECTION 5. FIREFIGHTING MEASURES**

Suitable extinguishing media : Dry chemical  
Water spray jet  
Carbon dioxide (CO<sub>2</sub>)  
Alcohol-resistant foam

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Carbon dioxide (CO<sub>2</sub>)  
Carbon monoxide  
Nitrogen oxides (NO<sub>x</sub>)  
Smoke

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

Further information : Standard procedure for chemical fires.

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.

Environmental precautions : Prevent further leakage or spillage if safe to do so.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.

**SECTION 7. HANDLING AND STORAGE**

Advice on safe handling : Do not breathe vapours/dust.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.

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Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.  
Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid : No materials to be especially mentioned.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

**Personal protective equipment**

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection  
Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Ensure that eyewash stations and safety showers are close to the workstation location.  
Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and at the end of workday.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : liquid

Colour : clear, colourless

Odour : sweet

Odour Threshold : no data available

pH : 8.5 - 9.5

Melting point/freezing point : no data available

Boiling point : 100 °C

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Flash point : does not flash

Evaporation rate : 1

Upper explosion limit : not applicable

Lower explosion limit : not applicable

Vapour pressure : not determined

Relative vapour density : no data available

Density : 1.026 g/cm<sup>3</sup>

Solubility(ies)

Water solubility : soluble

Solubility in other solvents : not determined

Partition coefficient: n-octanol/water : no data available

Auto-ignition temperature : not determined

Thermal decomposition : no data available

Viscosity

Viscosity, kinematic : no data available

### SECTION 10. STABILITY AND REACTIVITY

Reactivity : Stable

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : No hazards to be specially mentioned.  
No decomposition if stored and applied as directed.

Conditions to avoid : no data available

Incompatible materials : no data available

Hazardous decomposition products : Carbon oxides  
Nitrogen oxides (NO<sub>x</sub>)  
Sodium oxides  
Copper oxides

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

##### Product:

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Acute oral toxicity : Acute toxicity estimate : > 5,000 mg/kg  
Method: Calculation method

**Skin corrosion/irritation**

no data available

**Serious eye damage/eye irritation**

**Product:**

Remarks: Irritating to eyes.

**Respiratory or skin sensitisation**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

no data available

**Reproductive toxicity**

no data available

tetrasodium ethylenediaminetetraacetate:  
Alcohols, C10-14, ethoxylated:

**STOT - single exposure**

no data available

**STOT - repeated exposure**

no data available

**Aspiration toxicity**

no data available

**Further information**

**Product:**

Remarks: no data available

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**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

no data available

**Persistence and degradability**

no data available

**Bioaccumulative potential**

**Product:**

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Partition coefficient: n-octanol/water : Remarks: no data available

**Mobility in soil**

no data available

**Other adverse effects**

no data available

**Product:**

Regulation 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances

Remarks This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : no data available

**SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal methods**

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Dispose of in accordance with local regulations.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.

**SECTION 14. TRANSPORT INFORMATION**

Transportation Regulation: 49 CFR (USA):  
NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

Transportation Regulation: IMDG (Vessel):  
NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

Transportation Regulation: IATA (Cargo Air):  
NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

Transportation Regulation: IATA (Passenger Air):  
NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL



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Transportation Regulation: TDG (Canada):  
 NOT REGULATED AS DANGEROUS GOODS OR HAZARDOUS MATERIAL

**SECTION 15. REGULATORY INFORMATION**

**EPCRA - Emergency Planning and Community Right-to-Know Act**

**CERCLA Reportable Quantity**

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
sodium hydroxide	1310-73-2	1000	*

\*: Calculated RQ exceeds reasonably attainable upper limit.

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards** : Acute Health Hazard

**SARA 302** : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313** : SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

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

**The components of this product are reported in the following inventories:**

- TSCA** : On TSCA Inventory
- DSL** : This product contains one or several components that are not on the Canadian DSL nor NDSL.
- AICS** : Not in compliance with the inventory
- NZIoC** : Not in compliance with the inventory
- PICCS** : Not in compliance with the inventory
- IECSC** : Not in compliance with the inventory

**Inventory Acronym and Validity Area Legend:**

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

**SECTION 16. OTHER INFORMATION**

**ZEP PREMIUM CARPET SHAMPO**

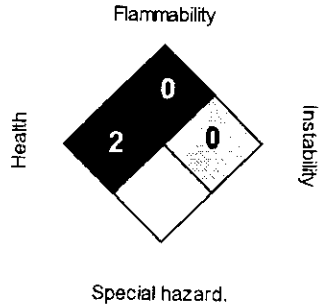
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Further information

NFPA:



HMIS III:

<b>HEALTH</b>	<b>2</b>
<b>FLAMMABILITY</b>	<b>0</b>
<b>PHYSICAL HAZARD</b>	<b>0</b>

0 = not significant, 1 = Slight,  
 2 = Moderate, 3 = High  
 4 = Extreme, \* = Chronic

OSHA GHS Label Information:

Hazard pictograms :



Signal word :

Hazard statements :

Precautionary statements :

**Warning:**  
 Causes serious eye irritation.

**Prevention:** Wash skin thoroughly after handling. Wear eye protection/ face protection.  
**Response:** 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.

**Disposal:** Dispose of contents/container in accordance with local regulation.

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. Users should make their own investigations to determine the suitability and applicability of the information for their particular purposes. This SDS has been prepared by the Compliance Services organization supporting this manufacturer, supplier or distributor.

Zep Inc. markets products under well recognized and established brand names such as Zep®, Zep Commercial®, Zep Professional®, Enforcer®, National Chemical™, Selig™, Misty®, Next Dimension™, Petro®, i-Chem®, TimeMist®, TimeWick™, MicrobeMax®, Country Vet®, Konk®, Original Bike Spirits®, Blue Coral®, Black Magic®, Rain-X®, Niagara National™, FC Forward Chemicals®, Rexodan®, Mykal™, and a number of private labeled brands.

# FLINN SCIENTIFIC, INC.

## Safety Data Sheet (SDS)

SDS #: 859.00

Revision Date: March 21, 2014

### SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

#### Zinc

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: Substances and mixtures which, in contact with water, emit flammable gases (Category 1). In contact with water releases flammable gases which may ignite spontaneously (H260). Handle under inert gas. Protect from moisture (P231+P232). Keep away from any possible contact with water, because of violent reaction and possible flash fire (P223).

### SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Zinc	7440-66-6	Zn	65.37	

### 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:** Brush off loose particles from skin (P335). 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.

Finely divided zinc dust is a severe fire hazard. Zinc dust in contact with acids, water or damp air evolves hydrogen gas. The heat produced may ignite the hydrogen gas. Minimize contact with moisture.

**In case of fire:** Use a tri-class dry class fire extinguisher (P370+P378). If there is contact with water use class D fire extinguisher according to NFPA book.

**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.

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**SECTION 7 — HANDLING AND STORAGE**

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

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**SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION**

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Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling.

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**SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES**

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Shiny white metal with bluish-gray luster. Forms: granular, mossy dust, metal pieces, foil, sheets, shot, strips. Odorless. Soluble: Acids and alkalis. Insoluble in water.

Boiling point: 908 °C  
Melting point: 419 °C  
Specific gravity: 7.14

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**SECTION 10 — STABILITY AND REACTIVITY**

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Avoid strong acids, strong bases, cadmium, sulfur chlorinated solvents, amines, and carbon disulfide. Avoid any source of flame for zinc dust only! Zinc dust can spontaneously combust when in contact with moisture.

Shelf life: Indefinite, if stored properly.

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**SECTION 11 — TOXICOLOGICAL INFORMATION**

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Acute effects: Dust may cause lung irritations.

ORL-RAT LD<sub>50</sub>: N.A.

Chronic effects: N.A.

IHL-RAT LC<sub>50</sub>: N.A.

Target organs: N.A.

SKN-RBT LD<sub>50</sub>: N.A.

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

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**SECTION 12 — ECOLOGICAL INFORMATION**

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Data not yet available.

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**SECTION 13 — DISPOSAL CONSIDERATIONS**

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

Flinn Suggested Disposal Method #26a is one option.

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**SECTION 14 — TRANSPORT INFORMATION**

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

N/A = Not applicable

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**SECTION 15 — REGULATORY INFORMATION**

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TSCA-listed, EINECS-listed (231-175-3).

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**SECTION 16 — OTHER INFORMATION**

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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

# LAB-AIDS<sup>®</sup> inc.

## MATERIAL SAFETY DATA SHEET

82-8

CHEMICAL NAME & SYNONYMS Zinc		USED IN LAB-AIDS KITS #82
FORMULA Zn	FORMULA WEIGHT (F.W.) Atomic Weight 65.37	CAS NO. 7440-66-6
PHYSICAL DATA (DENSITY, SOLUBILITY, ETC.) Soluble in acids and alkalies; insoluble in water		
APPEARANCE AND ODOR Shiny-white metal with a bluish-gray luster.		
INCOMPATIBILITY (MATERIALS TO AVOID): N/A	DOT CLASS Flammable Solid	REACTIVITY Stable
CONDITIONS TO AVOID (IF ANY): N/A		
HEALTH HAZARDS (IF ANY): Material considered to be non-hazardous; however, all of its characteristics may not have been investigated.		TOLERANCE LIMIT VALUE (TLV) (IF ESTABLISHED) None
FIRE HAZARDS (IF ANY): N/A		
SPILLS AND LEAKS Gather up material in a pile. Place in a suitable container.	DISPOSAL METHOD Place container in school trash.	
SPECIAL PRECAUTIONS (IF ANY): N/A		
FIRST AID (IF SUBSTANCE DANGEROUS): N/A		

N/A-NOT APPLICABLE

17 Colt Court, Ronkonkoma, New York 11779 (516) 737-1133

## 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** ZINC ACETATE  
**Synonyms** Zinc Acetate, Dihydrate

## Section 2 Hazards Identification

**Signal word:** WARNING  
**Pictograms:** GHS07 / GHS09  
**Target organs:** None known



**GHS Classification:**  
Acute toxicity, oral (Category 4)  
Eye irritation (Category 2)  
Aquatic toxicity, acute (Category 1)  
Aquatic toxicity, chronic (Category 1)

**GHS Label information: Hazard statement:**  
H302: Harmful if swallowed.  
H319: Causes serious eye irritation.  
H400: Very toxic to aquatic life.  
H410: Very toxic to aquatic life with long lasting effects.

**Precautionary statement:**

P264: Wash hands thoroughly after handling.  
P270: Do not eat, drink or smoke when using this product.  
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.  
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.  
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 or reproductive toxicity.

Chemical Name	CAS #	%	EINECS
Zinc acetate, dihydrate	5970-45-6	100%	209-170-2 (zinc di(acetate))

**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 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.

**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)
	Zinc and compounds	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**

<b>Appearance:</b> Solid. White crystals <b>Odor:</b> Slight acetic acid odor <b>Odor threshold:</b> Data not available <b>pH:</b> 6.0 - 8.0 @ 50 g/L @ 77°F <b>Melting / Freezing point:</b> Data not available <b>Boiling point:</b> Data not available <b>Flash point:</b> Data not available	<b>Evaporation rate ( = 1):</b> Data not available <b>Flammability (solid/gas):</b> Data not available <b>Explosion limits: Lower / Upper:</b> Data not available <b>Vapor pressure (mm Hg):</b> Data not available <b>Vapor density (Air = 1):</b> Data not available <b>Relative density (Specific gravity):</b> 1.74 <b>Solubility(ies):</b> Soluble in water	<b>Partition coefficient:</b> Data not available <b>Auto-ignition temperature:</b> Data not available <b>Decomposition temperature:</b> Data not available <b>Viscosity:</b> Data not available <b>Molecular formula:</b> Zn(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>2</sub> ·2H <sub>2</sub> O <b>Molecular weight:</b> 219.50
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**Section 10 Stability & Reactivity**

**Chemical stability:** Stable  
**Conditions to avoid:** Excessive temperatures.  
**Incompatible materials:** Strong oxidizers.  
**Hazardous decomposition products:** Zinc oxides.

**Hazardous polymerization:** Will not occur.

**Acute toxicity:** Oral-rat LD50: 2510 mg/kg (Zinc acetate) ; Oral-rat LD50: 237 mg/kg (Zinc)

**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:** Harmful if swallowed.

**Skin:** Contact causes irritation.

**Eyes:** Contact causes 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 #: ZG8750000

**Toxicity to fish:** Oncorhynchus mykiss (fish, fresh water), LC50 = 0.55 mg/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:** Very toxic to aquatic life with long lasting effects.

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:** Yes

**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	CERCLA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Zinc acetate, dihydrate	Listed	1000 lbs (2270 Kg)	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, ERG: Emergency Response Guidebook.

# Safety Data Sheet

Zinc Chloride

**CAROLINA**<sup>®</sup>  
www.carolina.com

## Section 1 Product Description

**Product Name:** Zinc Chloride  
**Recommended Use:** Science education applications  
**Synonyms:** Zinc Dichloride  
**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**



Harmful if swallowed.

**GHS Classification:**  
Acute Toxicity - Oral Category 4

<b>Acute Toxicity Dermal Contains</b>	100 % of the mixture consists of ingredient(s) of unknown toxicity
<b>Acute Toxicity Inhalation Gas Contains</b>	100 % of the mixture consists of ingredient(s) of unknown toxicity
<b>Acute Toxicity Inhalation Vapor Contains</b>	100 % of the mixture consists of ingredient(s) of unknown toxicity
<b>Acute Toxicity Inhalation Dust/Mist Contains</b>	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>
Zinc Chloride (CAS#7646-85-7)	7646-85-7	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.  
**Ingestion:** IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

## 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:** Reacts with water or steam to produce toxic and corrosive fumes.  
**Hazardous Combustion Products:** Carbon dioxide, Carbon monoxide

## Section 6 Spill or Leak Procedures



# 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.

## Section 7 Handling and Storage

**Handling:** Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Keep container tightly closed in a cool, well-ventilated place.

**Storage:** Keep container tightly closed in a cool, well-ventilated place.

**Storage Code:** Blue - Toxic. Store separately in a secured area.

## Section 8 Protection Information

Chemical Name	ACGIH		OSHA PEL	
	(TWA)	(STEL)	(TWA)	(STEL)
Zinc Chloride (CAS#7646-85-7) 100%	1 mg/m <sup>3</sup> TWA (fume)	2 mg/m <sup>3</sup> STEL (fume)	1 mg/m <sup>3</sup> TWA (fume)	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

<b>Formula:</b> ZnCl <sub>2</sub>	<b>Vapor Pressure:</b> 1.33 hPa @ 428°C
<b>Molecular Weight:</b> 136.29 g/mol	<b>Evaporation Rate (BuAc=1):</b> N/A
<b>Appearance:</b>	<b>Vapor Density (Air=1):</b> N/A
<b>Odor:</b> No data available	<b>Specific Gravity:</b> 2.91
<b>Odor Threshold:</b> No data available	<b>Solubility in Water:</b> Soluble
<b>pH:</b> No data available	<b>Log Pow (calculated):</b> No data available
<b>Melting Point:</b> No data available	<b>Autoignition Temperature:</b> No data available
<b>Boiling Point:</b> No data available	<b>Decomposition Temperature:</b> No data available
<b>Flash Point:</b> No data available	<b>Viscosity:</b> No data available
<b>Flammable Limits in Air:</b> N/A N/A	<b>Percent Volatile by Volume:</b> N/A

## Section 10 Reactivity Data

<b>Reactivity:</b>	No data available
<b>Chemical Stability:</b>	Stable under normal conditions.
<b>Conditions to Avoid:</b>	None known.
<b>Hazardous Polymerization:</b>	Will not occur

## Section 11 Toxicity Data

<b>Routes of Entry</b>	Inhalation, ingestion, eye or skin contact.
<b>Symptoms (Acute):</b>	Harmful by inhalation and if swallowed.
<b>Delayed Effects:</b>	No data available

### Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
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# Safety Data Sheet

Zinc Chloride (CAS#7646-85-7) 100%      7646-85-7      Oral LD50 Mouse 329 mg/kg  
Oral LD50 Rat 350 mg/kg      Not determined      Not determined

**Carcinogenicity:**  
**Chemical Name**      **CAS Number**      **IARC**      **NTP**      **OSHA**  
No data available      7646-85-7      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**  
N/A      7646-85-7

## 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:** UN2331, Zinc Chloride, Anhydrous, 8, III  
**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
Zinc Chloride (CAS#7646-85-7) 100%	7646-85-7	No	1000 lb RQ	1000 lb final RQ; 454 kg final RQ	No	No

## Section 16 Additional Information

Revised: 09/03/2014

Replaces: 08/27/2014

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

## Safety Data Sheet (SDS)

### SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

#### Zinc Chloride Solution

Signal  
Word  
**WARNING**

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261  
Chemtrec Emergency Phone Number: (800) 424-10502

Pictograms

### SECTION 2 — HAZARDS IDENTIFICATION

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

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
Zinc chloride	7646-85-7	ZnCl <sub>2</sub>	136.29	7-14%
Hydrochloric acid	7647-01-0	HCl	36.46	<0.5%>
Water	7732-18-5	H <sub>2</sub> O	18.00	86-93%

### 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 eyes:** 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.

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**SECTION 5 — FIRE FIGHTING MEASURES**

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Nonflammable, noncombustible solution.

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

**NFPA Code**  
None  
established

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**SECTION 6 — ACCIDENTAL RELEASE MEASURES**

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Ventilate area. Contain spill with sand or absorbent material; deposit in sealed bag or container. See Sections 8 and 13 for further information.

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**SECTION 7 — HANDLING AND STORAGE**

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Flinn Suggested Chemical Storage Pattern: Inorganic #2. Store with acetates, halides, sulfates, sulfites, thiosulfates and phosphates.

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**SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION**

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

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**SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES**

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Colorless liquid. Odorless.

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**SECTION 10 — STABILITY AND REACTIVITY**

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Shelf life: Indefinite, if stored properly.

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**SECTION 11 — TOXICOLOGICAL INFORMATION**

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Acute effects: Toxic, corrosive.

ORL-RAT LD<sub>50</sub>: 350 mg/kg as ZnCl<sub>2</sub>

Chronic effects: N.A.

IHL-RAT LC<sub>50</sub>: N.A.

Target organs: N.A.

SKN-RBT LD<sub>50</sub>: N.A.

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**SECTION 12 — ECOLOGICAL INFORMATION**

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Data not yet available.

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**SECTION 13 — DISPOSAL CONSIDERATIONS**

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

Flinn Suggested Disposal Method #26b is one option.

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**SECTION 14 — TRANSPORT INFORMATION**

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

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**SECTION 15 — REGULATORY INFORMATION**

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Not listed.

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**SECTION 16 — OTHER INFORMATION**

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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).

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

N/A = Not applicable

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

**Revision Date:** March 21, 2014

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**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** ZINC METAL

**Synonyms** Zinc / Zinc Metal Powder

**Section 2 Hazards Identification**

**Signal word:** WARNING

**Pictograms:** GHS09

**Target organs:** None known

**GHS Classification:**

Aquatic acute (Category 1)

Aquatic chronic (Category 1)

**GHS Label information: Hazard statement(s):**

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

**Precautionary statement(s):**

P273: Avoid release to the environment.

P391: Collect spillage.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

**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**

Nommé Chimique	# CAS	%	EINECS
Zinc powder	7440-66-6	100%	231-175-3

**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:** HARMFUL IF INHALED AS FUME. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**EYE CONTACT:** MAY CAUSE MECHANICAL 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 DERMATITIS. 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 triclass, dry chemical fire extinguisher. Do NOT use water on fire where molten metal is present.

**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. Molten metals produce fume, vapor and/or dust that may be toxic and/or a respiratory irritant. Metal reacts with oxidizing agents. Small chips, turnings, and dust with ignite readily. Dust cloud may be explosive.

**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**

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 fumes from molten metals. Wash thoroughly after handling. Remove and wash clothing before reuse.

**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)
	Particulates not otherwise classified	None established	TWA: 5 mg/m <sup>3</sup> respirable fraction	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. Metallic silver-gray powder  
**Odor:** No odor.  
**Odor threshold:** Data not available.  
**pH:** Data not available.  
**Melting / Freezing point:** 419°C (787°F)  
**Boiling point:** 907°C (1665°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):** Data not available  
**Vapor density (Air = 1):** Data not available  
**Relative density (Specific gravity):** 7.12  
**Solubility(ies):** Insoluble

**Partition coefficient:** Data not available  
**Auto-ignition temperature:** Not applicable  
**Decomposition temperature:** Data not available.  
**Viscosity:** Data not available.  
**Molecular formula:** Zn  
**Molecular weight:** 65.38

**Section 10 Stability & Reactivity**

**Chemical stability:** Stable

**Hazardous polymerization:** Will not occur.

**Conditions to avoid:** Excessive temperatures. Hydrogen may evolve when in contact with water or damp air.

**Incompatibilities with other materials:** Strong acids, halogens, acids, alkalies and water.

**Hazardous decomposition products:** Zinc oxides and zinc fumes. Reacts with water, acids or alkalies to generate hydrogen gas.

**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 dust or fume may cause irritation to eyes, nose, throat, and cause a metallic taste in the mouth. May cause metal fume fever or produce flu-like symptoms.

**Ingestion:** May be harmful if swallowed.

**Skin:** May cause dermatitis.

**Eyes:** Contact with eyes may cause mechanical irritation.

**Signs and symptoms of exposure:** Over-heating of alloy can produce metal fumes and oxides. Over-exposure to dust and fumes may cause mouth, eye, and nose irritation.

**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 Transport Information**

**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

**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
Zinc	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.





# Fisher Scientific

Part of Thermo Fisher Scientific

## SAFETY DATA SHEET

Creation Date 02-Jun-2010

Revision Date 19-Aug-2014

Revision Number 1

### 1. Identification

**Product Name** Zinc Metal Powder  
**Cat No. :** Z5-500; Z46-3  
**Synonyms** Zinc Dust (Certified/Technical)  
**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)

Substances/mixtures which, in contact with water, emit flammable gases	Category 1
Pyrophoric solids	Category 1

#### Label Elements

**Signal Word**  
Danger

#### **Hazard Statements**

In contact with water releases flammable gases which may ignite spontaneously  
Catches fire spontaneously if exposed to air

**Precautionary Statements****Prevention**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking

Do not allow contact with air

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

Keep away from any possible contact with water, because of violent reaction and possible flash fire

Handle under inert gas. Protect from moisture

**Skin**

Brush off loose particles from skin. Immerse in cool water/wrap with wet bandages

**Fire**

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

**Storage**

Store under an inert atmosphere

Store in a dry place. Store in a closed container

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Very toxic to aquatic life with long lasting effects

May form combustible dust concentrations in air

### 3. Composition / information on ingredients

Component	CAS-No	Weight %
Zinc powder - zinc dust (pyrophoric)	7440-66-6	100

### 4. First-aid measures

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.
<b>Inhalation</b>	Move to fresh air. If breathing is difficult, give oxygen. Get medical attention if symptoms occur.
<b>Ingestion</b>	Do not induce vomiting. Obtain medical attention.
<b>Most important symptoms/effects Notes to Physician</b>	No information available. Treat symptomatically

### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Dry sand, clay, approved class D extinguishers.
<b>Unsuitable Extinguishing Media</b>	DO NOT USE WATER, Carbon dioxide (CO <sub>2</sub> ), Dry chemical, Foam
<b>Flash Point Method -</b>	No information available No information available
<b>Autoignition Temperature</b>	460 °C / 860 °F
<b>Explosion Limits Upper Lower</b>	No data available No data available

**Sensitivity to Mechanical Impact** No information available  
**Sensitivity to Static Discharge** No information available

**Specific Hazards Arising from the Chemical**

Flammable. Fine dust dispersed in air may ignite. Pyrophoric: Spontaneously flammable in air. Water reactive. Contact with water liberates extremely flammable gases. 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**

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**

<b>Health</b> 1	<b>Flammability</b> 4	<b>Instability</b> 3	<b>Physical hazards</b> W
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**6. Accidental release measures**

<b>Personal Precautions</b>	Use personal protective equipment. Remove all sources of ignition. Avoid dust formation. Take precautionary measures against static discharges. Do not get in eyes, on skin, or on clothing.
<b>Environmental Precautions</b>	Should not be released into the environment. See Section 12 for additional ecological information.
<b>Methods for Containment and Clean Up</b>	Remove all sources of ignition. Do not expose spill to water. Sweep up or vacuum up spillage and collect in suitable container for disposal. Use spark-proof tools and explosion-proof equipment. Avoid dust formation.

**7. Handling and storage**

<b>Handling</b>	Use only under a chemical fume hood. Wear personal protective equipment. Avoid dust formation. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. Handle under an inert atmosphere. Do not allow contact with air. Do not allow contact with water. Keep away from open flames, hot surfaces and sources of ignition. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharges.
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Store under an inert atmosphere. Keep away from heat and sources of ignition. Keep away from water.

**8. Exposure controls / personal protection**

<b>Exposure Guidelines</b>	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
<b>Engineering Measures</b>	Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.
<b>Personal Protective Equipment</b>	
<b>Eye/face Protection</b>	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.
<b>Skin and body protection</b>	Wear appropriate protective gloves and clothing to prevent skin exposure.
<b>Respiratory Protection</b>	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.
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice.

**9. Physical and chemical properties**

<b>Physical State</b>	Solid
<b>Appearance</b>	Light blue

Odor	Odorless
Odor Threshold	No information available
pH	No information available
Melting Point/Range	419 °C / 786.2 °F
Boiling Point/Range	908 °C / 1666.4 °F
Flash Point	No information available
Evaporation Rate	No information available
Flammability (solid,gas)	No information available
Flammability or explosive limits	No information available
Upper	No data available
Lower	No data available
Vapor Pressure	1 mmHg @ 487 °C
Vapor Density	No information available
Relative Density	7.14
Solubility	Insoluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	460 °C / 860 °F
Decomposition temperature	No information available
Viscosity	No information available
Molecular Formula	Zn
Molecular Weight	65.37

## 10. Stability and reactivity

Reactive Hazard	Yes
Stability	Water reactive. Moisture sensitive. Air sensitive. Pyrophoric: Spontaneously flammable in air.
Conditions to Avoid	Avoid dust formation. Incompatible products. Exposure to air. Exposure to moist air or water. Keep away from open flames, hot surfaces and sources of ignition.
Incompatible Materials	Strong oxidizing agents, Strong acids, Strong bases, Amines
Hazardous Decomposition Products	Hydrogen
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	Contact with water liberates extremely flammable gases. Pyrophoric: Spontaneously flammable in air.

## 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	No information available
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
Zinc powder - zinc dust (pyrophoric)	7440-66-6	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	Tumorigenic effects have been reported in experimental animals. 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
Zinc powder - zinc dust (pyrophoric)	0.09 - 0.125 mg/L EC50 72 h 0.11 - 0.271 mg/L EC50 96 h	0.41 mg/L LC50 96 h 0.59 mg/L LC50 96 h 0.24 mg/L LC50 96 h 3.5 mg/L LC50 96 h 7.8 mg/L LC50 96 h 0.45 mg/L LC50 96 h 30 mg/L LC50 96 h 2.66 mg/L LC50 96 h 0.211 - 0.269 mg/L LC50 96 h 2.16 - 3.05 mg/L LC50 96 h	Not listed	0.139 - 0.908 mg/L EC50 48 h

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	UN1436
Proper Shipping Name	ZINC POWDER
Hazard Class	4.3
Subsidiary Hazard Class	4.2
Packing Group	II

### TDG

UN-No	UN1436
Proper Shipping Name	ZINC POWDER
Hazard Class	4.3
Subsidiary Hazard Class	4.2
Packing Group	II

### IATA

UN-No	UN1436
Proper Shipping Name	ZINC POWDER
Hazard Class	4.3
Subsidiary Hazard Class	4.2
Packing Group	II

### IMDG/IMO

UN-No	UN1436
Proper Shipping Name	ZINC POWDER
Hazard Class	4.3

Subsidiary Hazard Class 4.2  
Packing Group II

### 15. Regulatory information

#### International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Zinc powder - zinc dust (pyrophoric)	X	X	-	231-175-3	-		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 %
Zinc powder - zinc dust (pyrophoric)	7440-66-6	100	1.0

#### SARA 311/312 Hazardous Categorization

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

#### Clean Water Act

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Zinc powder - zinc dust (pyrophoric)	-	-	X	X

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
Zinc powder - zinc dust (pyrophoric)	1000 lb	-

California Proposition 65 This product does not contain any Proposition 65 chemicals

#### State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Zinc powder - zinc dust (pyrophoric)	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** 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** B6 Reactive flammable material

**16. Other information**

**Prepared By** Regulatory Affairs  
Thermo Fisher Scientific  
Email: EMSDS.RA@thermofisher.com

**Creation Date** 02-Jun-2010  
**Revision Date** 19-Aug-2014  
**Print Date** 19-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**

# FLINN SCIENTIFIC, INC.

## Safety Data Sheet (SDS)

SDS #: 862.00

Revision Date: March 21, 2014

### SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

#### Zinc 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
Zinc nitrate hexahydrate	10196-18-6	Zn(NO <sub>3</sub> ) <sub>2</sub> ·6H <sub>2</sub> O	297.49	
Synonym: Zinc dinitrate				

### SECTION 4 — FIRST AID MEASURES

**If exposed or concerned:** Get medical advice or attention (P308+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:** Rinse cautiously with water for several minutes (P351).

**If swallowed:** Rinse mouth. Call a POISON CENTER or physician if you feel unwell (P301+P330+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 away from combustible materials (P220). Take any precautions to avoid mixing with combustibles (P221). Keep container tightly closed (P233). Use only in a hood or well-ventilated area (P271).

**SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION**

Wear protective gloves, protective clothing, eye protection, and face protection (P280). Wash hands thoroughly after handling (P264). Use only in a hood or well-ventilated area (P271).

**SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES**

Moist, white lumps or crystals. Odorless.

Melting point: 36.4 °C

Soluble: Water and alcohol

Specific gravity: 2.065

**SECTION 10 — STABILITY AND REACTIVITY**

Avoid contact with strong reducers, organic and combustible materials.

Shelf life: Indefinite, if stored properly.

**SECTION 11 — TOXICOLOGICAL INFORMATION**

Acute effects: Corrosive.

ORL-RAT LD<sub>50</sub>: 1190 mg/kg

Chronic effects: N.A.

IHL-RAT LC<sub>50</sub>: N.A.

Target organs: N.A.

SKN-RBT LD<sub>50</sub>: 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: Zinc Nitrate. Hazard class: 5.1, Oxidizer. UN number: UN1514

N/A = Not applicable

**SECTION 15 — REGULATORY INFORMATION**

TSCA-listed, EINECS-listed (292-366-5), 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 Identification

Page E1 of E2



**Aldon  
Corporation**

221 Rochester Street  
Avon, NY 14414  
(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** ZINC NITRATE, 0.1 MOLAR SOLUTION

**Synonyms** Zinc Nitrate, Water Solution

## Section 2 Hazards Identification

**Signal word:** WARNING

**Pictograms:** GHS07

**Target organs:** None known



**GHS Classification:**

Acute toxicity (Category 5)

Skin irritation (Category 3)

Eye irritation (Category 2B)

STOT SE (Category 3)

**GHS Label information: Hazard statement:**

H303: May be harmful if swallowed.

H316: Causes mild skin irritation.

H320: Causes eye irritation.

H335: May cause respiratory irritation.

**Precautionary statement:**

P261: Avoid breathing mist/vapours/spray.

P264: Wash hands thoroughly after handling.

P271: Use only outdoors or in a well-ventilated area.

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.

P337+P313: If eye irritation persists: Get medical attention.

P332+P313: If skin irritation occurs: Get medical attention.

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.

**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	97.03%	231-791-2
Zinc nitrate, hexahydrate	10196-18-6	2.97%	231-943-8

## 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. 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:** 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)
	Zinc 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 misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

## Section 9 Physical &amp; Chemical Properties

<b>Appearance:</b> Clear, colorless liquid.	<b>Evaporation rate ( Water = 1):</b> <1	<b>Partition coefficient:</b> Data not available
<b>Odor:</b> No odor.	<b>Flammability (solid/gas):</b> Data not available.	<b>Auto-ignition temperature:</b> Data not available
<b>Odor threshold:</b> Data not available.	<b>Explosion limits: Lower / Upper:</b> Data not available	<b>Decomposition temperature:</b> Data not available.
<b>pH:</b> Data not available.	<b>Vapor pressure (mm Hg):</b> 14 (water)	<b>Viscosity:</b> Data not available.
<b>Melting / Freezing point:</b> Approximately 0°C (32°F) (water)	<b>Vapor density (Air = 1):</b> 0.7 (water)	<b>Molecular formula:</b> Mixture
<b>Boiling point:</b> Approximately 100°C (212°F) (water)	<b>Relative density (Specific gravity):</b> Approximately 1.0 (water)	<b>Molecular weight:</b> Mixture
<b>Flash point:</b> Data not available	<b>Solubility(ies):</b> Complete in water.	

## Section 10 Stability &amp; Reactivity

**Chemical stability:** Stable **Hazardous polymerization:** Will not occur.

**Conditions to avoid:** Excessive temperatures which cause evaporation.

**Incompatible materials:** Combustible materials, reducing agents, organic materials, metal powders, stannous chloride, phosphorous, thiocyanates, cyanides, sodium hypophosphite.

**Hazardous decomposition products:** Nitrogen oxides and toxic fumes of zinc oxides.

## Section 11 Toxicological Information

**Acute toxicity:** Oral-rat LD50: 1190 mg/kg ; Dermal-rabbit LD50: 2400 mg/kg [Zinc nitrate, hexahydrate]

**Skin corrosion/irritation:** Irritant

**Serious eye damage/irritation:** 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: Inhalation causes cough, sore throat.

Ingestion: Ingestion causes abdominal cramps, abdominal pain, blue lips, fingernails and skin, nausea.

Skin: Contact with skin causes redness and pain.

Eyes: Contact with eyes causes redness, pain and blurred vision.

**Signs and symptoms of exposure:** Exercise appropriate procedures to minimize potential hazards.

**Additional information: RTECS #:** ZH4775000 [Zinc nitrate, hexahydrate]

## 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:** Yes

**Marine pollutant:** No

**Exceptions:** Not applicable

**2016 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
Zinc nitrate (as solid)	Listed	1000 lbs (454 kg)	Not listed	Not 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.



SDS #: 863.1

Revision Date: April 12, 2016

## Zinc Nitrate Solution ≥10 - 23% Safety Data Sheet (SDS)

### SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

#### Zinc Nitrate Solution ≥10 - 23%

Flinn Scientific, Inc. P.O. Box 219, Batavia, IL 60510 (800) 452-1261  
Chemtrec Emergency Phone Number: (800) 424-10505

Signal Word  
**WARNING**

Pictograms

### SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Skin irritation (Category 2). Causes skin irritation (H315).

Hazard class: Serious eye irritation (Category 2A). Causes serious eye irritation (H319).



### SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Zinc nitrate	10196-18-6	Zn(NO <sub>3</sub> ) <sub>2</sub> •6H <sub>2</sub> O	297.49	10-23%
Water	7732-18-5	H <sub>2</sub> O	18.00	90-77%

### 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 eyes:** 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. 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 #3. Store with amides, nitrates, nitrites and azides.

### 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**

---

Clear, colorless liquid. Odorless.

---

**SECTION 10 — STABILITY AND REACTIVITY**

---

Shelf life: Good, if stored properly.

---

**SECTION 11 — TOXICOLOGICAL INFORMATION**

---

Acute effects: Corrosive.

ORL-RAT LD<sub>50</sub>: 1190 mg/kg as zinc nitrate

Chronic effects: N.A.

IHL-RAT LC<sub>50</sub>: N.A.

Target organs: N.A.

SKN-RBT LD<sub>50</sub>: N.A.

---

**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.

---

**SECTION 15 — REGULATORY INFORMATION**

---

Not listed.

---

**SECTION 16 — OTHER INFORMATION**

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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).

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

N/A = Not applicable

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

**Revision Date:** April 12, 2016

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## 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.

<b>Product</b>	ZINC NITRATE, HEXAHYDRATE
<b>Synonyms</b>	Nitric Acid, Zinc Salt / Zinc Dinitrate

## Section 2 Hazards Identification

**Signal word:** DANGER  
**Pictograms:** GHS03 / GHS07  
**Target organs:** None known



**GHS Classification:**  
Oxidizing solid (Category 2)  
Acute toxicity (Category 4)  
Skin irritation (Category 2)  
Eye irritation (Category 2B)  
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/reducing agents.  
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 dry chemical, alcohol foam, carbon dioxide or water spray to extinguish.  
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P301+P330: IF SWALLOWED: Rinse mouth.  
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.  
P312: Call a POISON CENTER or doctor if you feel unwell.  
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.  
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
Zinc nitrate	10196-18-6	100%	231-943-8

**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:** 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:** 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:** 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 4 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. Not combustible but enhances combustion of other substances. Risk of fire and explosion on contact with reducing agents.

## Section 5 Personal, Environmental and Other Precautions

**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)
	Zinc 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**

<b>Appearance:</b> Solid. White crystals or flakes <b>Odor:</b> No odor. <b>Odor threshold:</b> Data not available. <b>pH:</b> 5.1 (5% solution) <b>Melting / Freezing point:</b> 36.4°C (97.52°F) <b>Boiling point:</b> 105 -130°C (221-266°F) <b>Flash point:</b> Not flammable	<b>Evaporation rate ( = 1):</b> Data not available <b>Flammability (solid/gas):</b> Data not available. <b>Explosion limits: Lower / Upper:</b> Data not available <b>Vapor pressure (mm Hg):</b> Data not available <b>Vapor density (Air = 1):</b> 10.3 <b>Relative density (Specific gravity):</b> 2.065 <b>Solubility(ies):</b> Soluble in water.	<b>Partition coefficient:</b> Data not available <b>Auto-ignition temperature:</b> Data not available <b>Decomposition temperature:</b> 105 -131°C (221-268°F) <b>Viscosity:</b> Data not available. <b>Molecular formula:</b> Zn(NO <sub>3</sub> ) <sub>2</sub> ·6H <sub>2</sub> O <b>Molecular weight:</b> 297.48
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**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 materials, metal powders, stannous chloride, phosphorous, thiocyanates, cyanides, sodium hypophosphite.  
**Hazardous decomposition products:** Nitrogen oxides and toxic fumes of zinc oxides.

**Section 11 Toxicological Information**

**Acute toxicity:** Oral-rat LD50: 1190 mg/kg ; Dermal-rabbit LD50: 2400 mg/kg  
**Skin corrosion/irritation:** Irritant  
**Serious eye damage/irritation:** Irritant  
**Respiratory or skin sensitization:** Data not available  
**Germ cell mutagenicity:** Data not available  
**Carcinogenity:** 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 causes cough, sore throat.  
 Ingestion: Ingestion causes abdominal cramps, abdominal pain, blue lips, fingernails and skin, nausea.  
 Skin: Contact with skin causes redness and pain.  
 Eyes: Contact with eyes causes redness, pain and blurred vision.  
**Signs and symptoms of exposure:** Exercise appropriate procedures to minimize potential hazards.  
**Additional information:** RTECS #: ZH4775000

**Section 12 Ecotoxicological 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:** UN1514      **Shipping name:** Zinc nitrate  
**Hazard class:** 5.1      **Packing group:** II      **Reportable Quantity:** Yes      **Marine pollutant:** No  
**Exceptions:** Limited quantity equal to or less than 1 Kg      **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
Zinc nitrate	Listed	1000 lbs (454 kg)	Not listed	Not listed	Not listed	(A) (T) C ; D2B

**Section 15 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

## Zinc, Granulated

**CAROLINA**<sup>®</sup>  
www.carolina.com

### Section 1 Product Description

**Product Name:** Zinc, Granulated  
**Recommended Use:** Science education applications  
**Synonyms:** Zinc  
**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**



Very toxic to aquatic life.

**GHS Classification:**  
Hazardous to the aquatic environment - Acute Category 1

### Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Zinc, Granulated	7440-66-6	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:** 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 or cover with dry sand or lime.  
**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. Water sprayed onto burning material may cause frothing and splattering of burning liquid with possible injury of firefighting personnel.  
**Hazardous Combustion Products:** Zinc Oxide,

### Section 6 Spill or Leak Procedures

**Steps to Take in Case Material Is Released or Spilled:** No adverse health effects expected from the clean-up of spilled material. Follow personal protective equipment recommendations found in Section 8 of this (M)SDS.



# Safety Data Sheet

Vacuum or sweep up material and place in a disposal container Do not allow the spilled product to enter public drainage system or open waterways. Collect spillage.

## Section 7 Handling and Storage

**Handling:** Avoid release to the environment. Keep container tightly closed in a cool, well-ventilated place.  
**Storage:** Suitable for any general chemical storage.  
**Storage Code:** Green - general chemical storage

## Section 8 Protection Information

Chemical Name	ACGIH		OSHA PEL	
	(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

<b>Formula:</b> Zn	<b>Vapor Pressure:</b> 1.33 hPa at 487 °C
<b>Molecular Weight:</b> 65.39	<b>Evaporation Rate (BuAc=1):</b> N/A
<b>Appearance:</b> Grey Lumps	<b>Vapor Density (Air=1):</b> N/A
<b>Odor:</b> No data available	<b>Specific Gravity:</b> 7.14
<b>Odor Threshold:</b> No data available	<b>Solubility in Water:</b> Practically Insoluble
<b>pH:</b> No data available	<b>Log Pow (calculated):</b> No data available
<b>Melting Point:</b> 786 C	<b>Autoignition Temperature:</b> No data available
<b>Boiling Point:</b> 1664 C	<b>Decomposition Temperature:</b> No data available
<b>Flash Point:</b> No data available	<b>Viscosity:</b> No data available
<b>Flammable Limits in Air:</b> N/A N/A	<b>Percent Volatile by Volume:</b> 0

## Section 10 Reactivity Data

**Reactivity:** No data available

**Chemical Stability:** Stable under normal conditions.

**Conditions to Avoid:** None known.

**Incompatible Materials:** Caustics (bases), Acids, Oxidizing materials

**Hazardous Decomposition Products:** Zinc Oxide,

**Hazardous Polymerization:** Will not occur

## Section 11 Toxicity Data

**Routes of Entry:** Inhalation and ingestion.

**Symptoms (Acute):** Respiratory disorders, Gastrointestinal,

**Delayed Effects:** No data available

### Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
No data available	7440-66-6	Not determined	Not determined	Not determined

### Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
No data available	7440-66-6	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:** 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**  
Zinc, Granulated

**CAS Number**  
7440-66-6

**Eco Toxicity**  
96 HR LC50 PIMEPHALES PROMELAS 2.66 MG/L [STATIC]  
96 HR LC50 CYPRINUS CARPIO 30 MG/L  
96 HR LC50 CYPRINUS CARPIO 7.8 MG/L [STATIC]  
96 HR LC50 LEPOMIS MACROCHIRUS 3.5 MG/L [STATIC]  
96 HR LC50 ONCORHYNCHUS MYKISS 0.41 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:**  
N/A

**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
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# Safety Data Sheet

Zinc, Granulated	7440-66-6	Zinc	No	454 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm); 1000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm)	No	No
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California Prop 65:

No California Proposition 65 ingredients

<b>Section 16</b>		<b>Additional Information</b>
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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

# Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA  
GHS

Printing date 30.09.2015

Revision: 30.06.2019

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name:** Zoom Spout Oiler
- **Article number:** 14114
- **CAS Number:**  
64741-88-4
- **EC number:**  
265-090-8
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Lubricating oil
- **1.3 Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**  
Highside Chemicals, Inc.  
11114 Reichold Road  
Gulfport, MS 39503 USA  
Phone: (228) 896-9220
- **1.4 Emergency telephone number:**  
ChemTel Inc.  
(800)255-3924, +1 (813)248-0585

## SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**  
The product is not classified as hazardous according to OSHA GHS regulations within the United States.  
The substance is not classified as hazardous according to the CLP regulation.
- **Additional information:**  
There are no other hazards not otherwise classified that have been identified.  
0 % of the mixture consists of component(s) of unknown toxicity.

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- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
This product does not have a classification according to the CLP regulation.  
The product is not classified as hazardous according to OSHA GHS regulations within the United States.
- **Hazard pictograms** Not Regulated
- **Signal word** Not Regulated
- **Hazard-determining components of labelling:** None.
- **Hazard statements** Not Regulated
- **Precautionary statements** Not Regulated
- **NFPA ratings (scale 0 - 4)**



(Cont'd. on page 2)

# Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA  
GHS

Printing date 30.09.2015

Revision: 30.06.2019

Trade name: Zoom Spout Oiler

(Cont'd. from page 1)

- **HMIS-ratings (scale 0 - 4)**

HEALTH	0	Health = 0
FIRE	1	Fire = 1
REACTIVITY	0	Reactivity = 0

- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

## SECTION 3: Composition/information on ingredients

- **3.1 Substances**

- **CAS No. Description**

64741-88-4 Distillates (petroleum), solvent-refined heavy paraffinic

- **Identification number(s)**

- **EC number:** 265-090-8

- **Index number:** 649-454-00-7

- **Additional information:**

Note L: The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346 'Determination of polycyclic aromatics in unused lubricating base oils and asphaltene free petroleum fractions - Dimethyl sulphoxide extraction refractive index method', Institute of Petroleum, London. This product meets these requirements.

## SECTION 4: First aid measures

- **4.1 Description of first aid measures**

- **General information:** Immediately remove any clothing soiled by the product.

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.

- **After skin contact:**

Wash with soap and water.

If skin irritation is experienced, consult a doctor.

- **After eye contact:**

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

- **After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

- **4.2 Most important symptoms and effects, both acute and delayed**

Slight irritant effect on eyes.

Slight irritant effect on skin and mucous membranes.

Gastric or intestinal disorders when ingested.

Nausea in case of ingestion.

- **Hazards** Repeated exposure may cause skin dryness or cracking.

(Cont'd. on page 3)

# Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA  
GHS

Printing date 30.09.2015

Revision: 30.06.2019

**Trade name: Zoom Spout Oiler**

(Cont'd. from page 2)

- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**  
Carbon dioxide  
Foam  
Fire-extinguishing powder  
Gaseous extinguishing agents
- **For safety reasons unsuitable extinguishing agents:** Water
- **5.2 Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.
- **5.3 Advice for firefighters**
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Wear fully protective suit.
- **Additional information** No further relevant information available.

## SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Ensure adequate ventilation  
Wear protective equipment. Keep unprotected persons away.  
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.  
Particular danger of slipping on leaked/spilled product.
- **6.2 Environmental precautions:**  
Do not allow to enter sewers/ surface or ground water.  
Inform respective authorities in case of seepage into water course or sewage system.  
Prevent from spreading (e.g. by damming-in or oil barriers).
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Remove from the water surface (e.g. skim or suck off).  
Dispose of the material collected according to regulations.  
Send for recovery or disposal in suitable receptacles.
- **6.4 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.

## SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Prevent formation of aerosols.  
Avoid splashes or spray in enclosed areas.

(Cont'd. on page 4)

# Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA  
GHS

Printing date 30.09.2015

Revision: 30.06.2019

Trade name: Zoom Spout Oiler

(Cont'd. from page 3)

- Use only in well ventilated areas.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Avoid storage near extreme heat, ignition sources or open flame.
- **Information about storage in one common storage facility:**  
Store away from foodstuffs.  
Store away from oxidising agents.
- **Further information about storage conditions:**  
Store in cool, dry conditions in well sealed receptacles.  
Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

## SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see section 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **DNELs** No further relevant information available.
- **PNECs** No further relevant information available.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
The usual precautionary measures are to be adhered to when handling chemicals.  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Do not inhale gases / fumes / aerosols.  
Avoid contact with the eyes.  
Avoid close or long term contact with the skin.
- **Respiratory protection:**  
Not required under normal conditions of use.  
Use suitable respiratory protective device when aerosol or mist is formed.  
For spills, respiratory protection may be advisable.
- **Protection of hands:**



Protective gloves

Gloves are advised for repeated or prolonged contact.  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

(Cont'd. on page 5)

# Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and OSHA  
GHS

Printing date 30.09.2015

Revision: 30.06.2019

Trade name: Zoom Spout Oiler

(Cont'd. from page 4)

## · Eye protection:



Safety glasses

- **Body protection:** Oil resistant protective clothing
- **Limitation and supervision of exposure into the environment** No special requirements.
- **Risk management measures** No special requirements.

## SECTION 9: Physical and chemical properties

## · 9.1 Information on basic physical and chemical properties

## · General Information

## · Appearance:

Form:	Liquid
Colour:	Clear
Odour:	Petroleum-like
Odour threshold:	Not determined.
pH-value:	Not determined.

## · Change in condition

Melting point/Melting range:	Not Determined.
Boiling point/Boiling range:	Undetermined.

- **Flash point:** > 150 °C (> 302 °F)
- **Flammability (solid, gaseous):** Not applicable.
- **Auto/Self-ignition temperature:** Not determined.
- **Decomposition temperature:** Not determined.
- **Self-igniting:** Not determined.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
  - Lower: Not determined.
  - Upper: Not determined.
- **Oxidising properties** Not determined.
- **Vapour pressure at 20 °C (68 °F):** 1 hPa (1 mm Hg)
- **Density at 15,6 °C (60 °F):** 0.86 - 0.87 g/cm<sup>3</sup> (7,177 - 7,26 lbs/gal)
- **Relative density** Not determined.
- **Vapour density at 20 °C (68 °F)** > 1 g/cm<sup>3</sup> (> 8,345 lbs/gal) (Air =1)
- **Evaporation rate at 20 °C (68 °F)** < 1 (Butyl Acetate = 1)
- **Solubility in / Miscibility with water:** Not miscible or difficult to mix.
- **Partition coefficient (n-octanol/water):** 4 - 6 log POW

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- **Viscosity:**
- **Dynamic:** Not determined.
- **Kinematic at 40 °C (104 °F):** 30 - 110 cSt
- **9.2 Other information** No further relevant information available.

## SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.  
To avoid thermal decomposition do not overheat.
- **10.3 Possibility of hazardous reactions**  
Toxic fumes may be released if heated above the decomposition point.  
Reacts with strong acids and oxidising agents.
- **10.4 Conditions to avoid**  
Keep away from heat and direct sunlight.  
Store away from oxidising agents.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**  
Carbon monoxide and carbon dioxide  
Hydrocarbons

## SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
- **LD/LC50 values relevant for classification:** None.
- **Primary irritant effect:**
- **Skin corrosion/irritation** Slight irritant effect on skin and mucous membranes.
- **Serious eye damage/irritation** Slight irritant effect on eyes.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Repeated dose toxicity:** Repeated exposure may cause skin dryness or cracking.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.

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- **12.2 Persistence and degradability** The product is partially biodegradable. Significant residuals remain.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:**  
Due to mechanical actions of the product (e.g. agglutinations) damages may occur.  
The product is oxygen-consuming. The declared action may be partly caused by lack of oxygen.
- **Additional ecological information:**
- **General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

## SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**  
Contact waste processors for recycling information.  
Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.  
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

## SECTION 14: Transport information

- **14.1 UN-Number**
- **DOT, ADR, IMDG, IATA** Not Regulated
- **14.2 UN proper shipping name**
- **DOT, ADR, IMDG, IATA** Not Regulated
- **14.3 Transport hazard class(es)**
- **DOT, ADR, IMDG, IATA**
- **Class** Not Regulated
- **14.4 Packing group**
- **DOT, ADR, IMDG, IATA** Not Regulated
- **14.5 Environmental hazards:** Not applicable.
- **14.6 Special precautions for user** Not applicable.
- **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.

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· UN "Model Regulation":

Not Regulated

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## SECTION 15: Regulatory information

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

· United States (USA)

· 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 (California):

· 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)

Substance is not listed.

· IARC (International Agency for Research on Cancer)

Substance is not listed.

· TLV (Threshold Limit Value established by ACGIH)

Substance is not listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

Substance is not listed.

· Canada

· Canadian Domestic Substances List (DSL)

Substance is listed.

· Canadian Ingredient Disclosure list (limit 0.1%)

Substance is not listed.

· Canadian Ingredient Disclosure list (limit 1%)

Substance is not listed.

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- **Directive 2012/18/EU**

<ul style="list-style-type: none"> <li>· <b>Named dangerous substances - ANNEX I</b></li> </ul>
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Substance is not listed.
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- **Other regulations, limitations and prohibitive regulations**

<ul style="list-style-type: none"> <li>· <b>Substances of very high concern (SVHC) according to REACH, Article 57</b></li> </ul>
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Substance is not listed.
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- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## SECTION 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.

- **Sources**

Website, European Chemicals Agency (<http://http://echa.europa.eu/>)

Website, US EPA Substance Registry Services ([http://http://ofmpub.epa.gov/sor\\_internet/registry/substreg/home/overview/home.do](http://http://ofmpub.epa.gov/sor_internet/registry/substreg/home/overview/home.do))

Website, Chemical Abstracts Registry, American Chemical Society (<https://www.cas.org>)

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

SDS Prepared by:

ChemTel Inc.

1305 North Florida Avenue

Tampa, Florida USA 33602-2902

Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573

Website: [www.chemtelinc.com](http://www.chemtelinc.com)