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FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 802.00

Revision Date: March 25, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Talc

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: Acute toxicity, inhalation (Category 4). Harmful if inhaled (H332). Avoid breathing dust or fumes (P261).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Talc	14807-96-6	3MgO·4SiO ₂ ·H ₂ O	Varies	
Synonym: Hydrous magnesium silicate				

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340).

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

If on skin: Wash with plenty of water.

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

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid.

When heated to decomposition, may emit toxic fumes.

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

NFPA CODE
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

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

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store with hydroxides, oxides, silicates and carbonates.
Store in a cool, dry place.
Use only in a hood or well-ventilated area (P271).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling. Use only in a hood or well-ventilated area (P271).
Exposure guidelines: PEL 20 mppcf (OSHA; TLV 2 mg/m³ (respirable fraction) (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

White-gray powder. Odorless. Specific gravity: 2.7-2.8
Soluble: Insoluble in water or alcohol. Not for topical use.

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers.
Shelf life: Indefinite, if kept dry.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A. ORL-RAT LD₅₀: N.A.
Chronic effects: Lung irritation, chemical pneumonitis. IHL-RAT LC₅₀: N.A.
Target organs: Lungs SKN-RBT LD₅₀: N.A.

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

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

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

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (238-877-9).

SECTION 16 — OTHER INFORMATION

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

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

Revision Date: March 25, 2014

Safety Data Sheet

TBE Buffer, 1X

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: TBE Buffer, 1X
Recommended Use: Science education applications
Distributor: Carolina Biological Supply Company
2700 York Road, Burlington, NC 27215
1-800-227-1150
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

GHS Classification:

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%
Water	7732-18-5	95
TBE Buffer, 20X		5

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Skin Contact: After contact with skin, wash immediately with plenty of water.
Ingestion: If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use media suitable to extinguish surrounding fire.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Fire or excessive heat may produce hazardous decomposition products.
Hazardous Combustion Products: Carbon dioxide, Carbon monoxide, Sodium Oxides, Nitrogen oxides, Boric Oxide

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: No adverse health affects expected from the clean-up of spilled material. Follow personal protective equipment recommendations found in Section 8 of this (M)SDS. Avoid creating and inhaling dust. Avoid creating and inhaling spray or mist. Avoid contact with skin and eyes.
Environmental Precautions: Avoid breathing material. Avoid contact with skin and eyes. Absorb the liquid and scrub the area with detergent and water. Do not allow the spilled product to enter public drainage system or open waterways.

Section 7 Handling and Storage

Storage: Suitable for any general chemical storage.
Storage Code: Green - general chemical storage

Safety Data Sheet

Section 8

Protection Information

Chemical Name	ACGIH		OSHA PEL	
	(TWA)	(STEL)	(TWA)	(STEL)
Boric Acid	2 mg/m ³ TWA (inhalable fraction, listed under Borate compounds, inorganic)	6 mg/m ³ STEL (inhalable fraction, listed under Borate compounds, inorganic)	N/A	N/A
EDTA, Disodium Salt, Dihydrate	N/A	N/A	N/A	N/A
Sodium Hydroxide	N/A	N/A	2 mg/m ³ TWA	N/A

Control Parameters

Engineering Measures:

Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure. Good general room ventilation should be sufficient to control airborne contaminants to safe levels.

Personal Protective Equipment (PPE):

Lab coat, apron, eye wash, safety shower.

Respiratory Protection:

No respiratory protection required under normal conditions of use.

Eye Protection:

Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection:

Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves:

Nitrile

Section 9

Physical Data

Formula: This product is a mixture.

Molecular Weight:

Appearance: Colorless Liquid

Odor: No data available

Odor Threshold: No data available

pH: No data available

Melting Point: = 0 C

Boiling Point: 100 C

Flash Point: No data available

Flammable Limits in Air: No data available

Vapor Pressure: No data available

Evaporation Rate (BuAc=1): No data available

Vapor Density (Air=1): No data available

Specific Gravity: No data available

Solubility in Water: Soluble

Log Pow (calculated): No data available

Autoignition Temperature: No data available

Decomposition Temperature: No data available

Viscosity: 10

Percent Volatile by Volume: No data available

Section 10

Reactivity Data

Reactivity:

No data available

Chemical Stability:

Stable under normal conditions.

Conditions to Avoid:

None known.

Incompatible Materials:

Water-reactive materials, Acetic anhydride, Alkali Carbonates, Hydroxides, Alkali and Alkaline Metals, Strong oxidizing agents

Hazardous Decomposition Products:

Carbon dioxide, Carbon monoxide, Sodium Oxides, Nitrogen oxides, Boric Oxide

Hazardous Polymerization:

Will not occur

Section 11

Toxicity Data

Symptoms (Acute): No data available

Delayed Effects: No data available

Acute Toxicity:

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

Water	7732-18-5	Oral LD50 Rat 90000 mg/kg
Boric Acid		Oral LD50 Rat 2660 mg/kg
EDTA, Disodium Salt, Dihydrate		Oral LD50 Rat 2000 mg/kg

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Boric Acid		Listed	Not listed	Not listed
EDTA, Disodium Salt, Dihydrate		Not listed	Not listed	Not listed
Sodium Hydroxide		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. Toxic effects are amplified in infants.
Chronic:	Not listed as a carcinogen by IARC, NTP or OSHA., Reproductive systems

Section 12 Ecological Data

Overview:	This material is not expected to be harmful to the ecology. Keep out of waterways.
Mobility:	No data
Persistence:	Dissolved into water, Photodegradation
Bioaccumulation:	No data
Degradability:	No data
Other Adverse Effects:	No data

Chemical Name	CAS Number	Eco Toxicity
Water	7732-18-5	No data available
Boric Acid		48 HR EC50 DAPHNIA MAGNA 115 - 153 MG/L
EDTA, Disodium Salt, Dihydrate		
Sodium Hydroxide		Aquatic LC50 (96h) Rainbow Trout 45.4 MG/L

Section 13 Disposal Information

Disposal Methods:	Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s):	Not Determined

Section 14 Transport Information

Ground - DOT Proper Shipping Name: Not regulated for transport by US DOT.	Air - IATA Proper Shipping Name: Not regulated for air transport by IATA.
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Section 15 Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Boric Acid		No	No	No	No	No
EDTA, Disodium Salt, Dihydrate		No	No	No	No	No
Sodium Hydroxide		No	No	No	No	No

Safety Data Sheet

Section 16

Additional Information

Revised: 12/08/2014

Replaces: None

Printed: 04-22-2015

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

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

MATERIAL SAFETY DATA SHEET

MANUFACTURER OR DISTRIBUTOR: General Pencil Company
3160 Bay Rd.
P.O. Box 5311
Redwood City CA 94063

INFORMATION TELEPHONE NUMBER: 650-369-4889

EMERGENCY TELEPHONE NUMBER: 650-369-4889

SECTION I - PRODUCT IDENTIFICATION -----

PRODUCT NAME: THE MASTERS BRUSH CLEANER PRODUCT NO. 101

PRODUCT SIZES: .25, 1, 2.5, 24 OZ

PRODUCT CLASS: BRUSH CARE PRODUCTS

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	CAS#	PEL/TLV (MG/M3)	MAX %WEIGHT	NTP	IARC

None					

----- SECTION III - PHYSICAL AND CHEMICAL CHARACTERISTICS -----

BOILING POINT: N/A MELTING POINT: N/A
VAPOR PRESSURE: N/A
SPECIFIC VAPOR DENSITY (AIR=1): N/A SPECIFIC GRAVITY: N/A
SOLUBILITY IN WATER: N/A REACTIVITY IN WATER: NON-REACTIVE
APPEARANCE AND ODOR:

SECTION IV - FIRE AND EXPLOSION INFORMATION

FLASH POINT (METHOD): N/A AUTOIGNITION TEMPERATURE: N/A
EXPLOSION LIMITS IN AIR (% BY VOLUME): NOT EXPLOSIVE
EXTINGUISHING MEDIA: NO SPECIAL MEDIA REQUIRED
FIRE FIGHTING PROCEDURES: NO SPECIAL FIRE FIGHTING PROCEDURES REQUIRED
UNUSUAL FIRE & EXPLOSION HAZARDS: NOT COMBUSTIBLE

SECTION V - PHYSICAL HAZARDS/REACTIVITY

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

COMPANY: General Pencil Company PRODUCT: 101
BRAND NAME: THE MASTERS BRUSH CLEANER

----- SECTION VI - HEALTH HAZARD DATA -----

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

PRIMARY ROUTES OF ENTRY: EYE, SKIN, INGESTION

EFFECTS AND SYMPTOMS OF ACUTE EXPOSURE: NONE EXPECTED

EFFECTS AND SYMPTOMS OF CHRONIC EXPOSURE: NONE EXPECTED

CARCINOGEN LISTING: NTP: NO IARC: NO OSHA: NO
SEE SECTION II FOR COMPONENTS AFFECTED

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

FIRST AID MEASURES: NONE REQUIRED. NO ACUTE HEALTH EFFECTS EXPECTED.

SECTION VII - SPILL OR LEAK PROCEDURES

PRECAUTIONS TO BE TAKEN DURING STORAGE AND HANDLING: NO SPECIAL
PRECAUTIONS REQUIRED.

STEPS TO BE TAKEN IN CASE A MATERIAL IS SPILLED: NO SPECIAL SPILL
PROCEDURES REQUIRED.

WASTE DISPOSAL METHOD: DISPOSE IN ACCORDANCE WITH FEDERAL, STATE AND
LOCAL REGULATIONS.

SECTION VIII - PROTECTIVE EQUIPMENT/CONTROL MEASURES

RESPIRATORY PROTECTION AND SPECIAL VENTILATION REQUIREMENTS: NONE REQUIRED

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

WORK/HYGIENE PRACTICES: THIS INFORMATION SHEET IS FOR THE CONSUMER USE
OF THIS PRODUCT ONLY.

SECTION IX - ADDITIONAL INFORMATION AND WARNINGS -----

NONE REQUIRED

Form Completed by: Woodhall Stopford, MD, MSPH
Last Updated: 09/12/00

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 811.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Thermit™

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: Flammable solids (Category 1 & 2), Flammable solid (H228). Keep away from heat, sparks, open flames, and hot surfaces. No smoking (P210).

On ignition the reaction produces a temperature of approximately 2200 °C which will soften steel. A typical oxide/metal reaction which provides its own oxygen supply and is very, very, difficult to stop.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Thermit, Black (a proprietary mixture of iron oxide, aluminum, ferro manganese, and ferro vanadium)	69012-31-3			

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

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

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

If on skin: Wash with plenty of water.

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

SECTION 5 — FIRE FIGHTING MEASURES

Flammable solid.

Dangerous fire risk; once reaction has started, it is very difficult to stop.

In case of fire: Use a Class D or dry sand as a fire extinguisher. Avoid water contact, violent reaction with water.

NFPA CODE
None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

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

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #4. Store with hydroxides, oxides, silicates and carbonates. Store in Flinn Saf-Stor™ can inside a dedicated flammables cabinet. Use explosion-proof electrical and ventilating equipment (P241).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear dark safety glasses when igniting thermit or using thermit ignition sticks. Wash hands thoroughly after handling.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Black powder. Odorless.

SECTION 10 — STABILITY AND REACTIVITY

Avoid sources of ignition. (i.e. open flame, sparks) and moisture.
Shelf life: Good, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.	ORL-RAT LD ₅₀ : N.A.
Chronic effects: N.A.	IHL-RAT LC ₅₀ : N.A.
Target organs: N.A.	SKN-RBT LD ₅₀ : N.A.

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

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #26a is one option.

SECTION 14 — TRANSPORT INFORMATION

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

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

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

Revision Date: March 21, 2014

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 812.00

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Thermit Igniting Stick

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: Flammable solids (Category 1 or 2). Flammable solid (H228). Keep away from heat, sparks, open flames, and hot surfaces. No smoking (P210).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Thermit igniting stick	None established			

SECTION 4 — FIRST AID MEASURES

Call a POISON CENTER or physician if you feel unwell.

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

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

If on skin: Wash with plenty of water.

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

SECTION 5 — FIRE FIGHTING MEASURES

Classification C explosive (Ex - 8903001) solid.

Dangerous fire risk; once reaction has started, it is very difficult to stop.

In case of fire: Use a Class D or dry sand as a fire extinguisher. Avoid water contact, violent reaction with water.

NFPA CODE

None established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

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

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Inorganic #1. Store with metals and metal hydrides.
Store in Flinn Saf-Stor™ can inside a dedicated flammables cabinet.
Ground or bond container and receiving equipment (P240).
Use explosion-proof electrical and ventilating equipment (P241).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear dark safety glasses when igniting thermit or using thermit ignition sticks. Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Silver-gray metallic material on a copper stick. Odorless.
Mixture of aluminum, barium nitrate, iron oxide and binder (dextrin) on a copper stick.

SECTION 10 — STABILITY AND REACTIVITY

Avoid all sources of ignition, heat (i.e. open flame, sparks), and moisture.
Shelf life: Good, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.	ORL-RAT LD ₅₀ : N.A.
Chronic effects: N.A.	IHL-RAT LC ₅₀ : N.A.
Target organs: N.A.	SKN-RBT LD ₅₀ : 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.
Place in a pile of clean dry sand and ignite is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Igniters; Hazard class: 1.4. Explosive; UN number: UN0454

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

Not listed.

SECTION 16 — OTHER INFORMATION

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

Revision Date: March 21, 2014

Section 1 Chemical Product and Company Information

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5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

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

Product	THYMOLPHTHALEIN
Synonyms	3,3-bis(4-hydroxy-5-isopropyl-o-tolyl)phthalide

Section 2 Hazards Identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: None required
Pictograms: No symbol required
Target organs: None known

GHS Classification: None required
GHS Label Information: Hazard statement: None required
Precautionary statement: None required

Supplemental information:

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

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

Chemical Name	CAS #	%	EINECS
Thymolphthalein	125-20-2	100%	204-729-7

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

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

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

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

Suitable Extinguishing Media: Use extinguishing agent suitable for type of surrounding fire.

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

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

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.

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 820.10

Revision Date: March 21, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Thymolphthalein Indicator Solution

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

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word **DANGER**

Pictograms



SECTION 2 — HAZARDS IDENTIFICATION

Hazard class: Flammable liquids (Category 2). Highly flammable liquid and vapor (H225). 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 mist, vapors or spray (P261).

Hazard class: Specific target organ toxicity, single exposure (Category 1). Causes damage to organs (H370).

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Thymolphthalein	125-20-2	C ₂₈ H ₃₀ O ₄	430.52	0.04%
Ethyl alcohol, denatured	64-17-5	C ₂ H ₅ OH	46.07	99%

SECTION 4 — FIRST AID MEASURES

If exposed or concerned: Call a POISON CENTER or physician (P307+P311).

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 (or hair):** Immediately remove all contaminated clothing. Rinse skin with water (P303+P361+P353). **If swallowed:** Rinse mouth. Call a POISON CENTER or physician if you feel unwell (P302+P301+P312).

SECTION 5 — FIRE FIGHTING MEASURES

Class IB flammable liquid due to ethyl alcohol content.

Flash point: 21 °C When heated, releases flammable fumes.

In case of fire: Use a tri-class dry chemical fire extinguisher (P370+P378).

NFPA CODE

H-2

F-3

R-0

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Remove all ignition sources and ventilate area. Contain spill with sand or other inert absorbent material, neutralize with sodium bicarbonate or calcium hydroxide and deposit in sealed bag or container. See Sections 8 and 13 for further information.

SECTION 7 — HANDLING AND STORAGE

Flinn Suggested Chemical Storage Pattern: Organic #9. Store with dyes, indicators and stains. Store in a dedicated flammables cabinet. If a flammables cabinet is not available, store in a Flinn Saf-Stor™ can. Keep container tightly closed and cool (P233+P235). Use explosion-proof electrical and ventilating equipment (P241). Use only non-sparking tools (P242). Take precautionary measures against static discharge (P243).

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Exposure guidelines: (as ethyl alcohol) PEL 1000 ppm (OSHA), Ceiling 1000 ppm (ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Clear, colorless liquid. Alcohol odor.

pH indicator: 9.3 colorless to 10.5 blue

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with oxidizers, peroxides, acids, acid chlorides, acid anhydrides, alkali metals, ammonia, moisture, heat, open flame, or any source of ignition.

Shelf Life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: Eye irritation, nausea, dizziness, headache.

ORL-RAT LD₅₀: 7060 mg/kg (as ethyl alcohol)

Chronic effects: Liver damage, reproductive, teratogenic effects, carcinogen.

IHL-RAT LC₅₀: 20,000 ppm/10H (as ethyl alcohol)

Target organs: Eyes, skin, central nervous system, liver, reproductive system.

SKN-RBT LD₅₀: N.A.

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

SECTION 12 — ECOLOGICAL INFORMATION

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 #18a is one option.

SECTION 14 — TRANSPORT INFORMATION

Shipping name: Ethyl alcohol solution. Hazard class: 3, Flammable liquid. UN number: UN1170.

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (200-578-6), 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

FLINN SCIENTIFIC, INC.

Safety Data Sheet (SDS)

SDS #: 822.00

Revision Date: March 25, 2014

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Tin

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

CHEMTREC Emergency Phone Number: (800) 424-9300

Signal Word N/A

Pictograms

SECTION 2 — HAZARDS IDENTIFICATION

This chemical is considered nonhazardous according to GHS classifications for the Hazard Communication Standard. Treat all laboratory chemicals with caution.

Although this material is considered to be nonhazardous, unpredictable reactions among chemicals are always possible. Prudent laboratory practices should be observed.

SECTION 3 — COMPOSITION, INFORMATION ON INGREDIENTS

Component Name	CAS Number	Formula	Formula Weight	Concentration
Tin	7440-31-5	Sn	118.69	

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: Rinse with water.

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

SECTION 5 — FIRE FIGHTING MEASURES

Nonflammable solid. Finely divided metal may be combustible.

When heated to decomposition, may emit toxic fumes.

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

NFPA CODE

None
established

SECTION 6 — ACCIDENTAL RELEASE MEASURES

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

SECTION 7 — HANDLING AND STORAGE

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

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling.
Exposure guidelines: PEL/TLV 2 mg/m³ (OSHA/ACGIH)

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Silver-white, ductile solid. Forms: granular, mossy, shot, and foil.	Boiling point: 2507 °C
Odorless.	Melting point: 232 °C
Soluble: Acids and hot potassium hydroxide solution. Insoluble in water.	Specific gravity: 7.310

SECTION 10 — STABILITY AND REACTIVITY

Avoid contact with strong oxidizers, sulfur, strong bases, halogens.
Shelf life: Indefinite, if stored properly.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute effects: N.A.	ORL-RAT LD ₅₀ : N.A.
Chronic effects: N.A.	IHL-RAT LC ₅₀ : N.A.
Target organs: N.A.	SKN-RBT LD ₅₀ : N.A.

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

SECTION 12 — ECOLOGICAL INFORMATION

Data not yet available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Please review all federal, state and local regulations that may apply before proceeding.
Flinn Suggested Disposal Method #27a is one option.

SECTION 14 — TRANSPORT INFORMATION

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

N/A = Not applicable

SECTION 15 — REGULATORY INFORMATION

TSCA-listed, EINECS-listed (231-141-8), RCRA code D001.

SECTION 16 — OTHER INFORMATION

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

Revision Date: March 25, 2014

Section 1 Chemical Product and Company Information

Page 1 of 2



5100 West Henrietta Rd
PO Box 92912
Rochester, NY 14692-9012
Tel: (800) 962-2660

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

Product TIN(II) CHLORIDE, DIHYDRATE
Synonyms Stannous Chloride, Dihydrate

Section 2 Hazards Identification

Signal word: DANGER
Pictograms: GHS05
Target organs: Liver, Kidneys, Brain



GHS Classification:
Skin corrosion (Category 1B)
Aquatic chronic (Category 3)

GHS Label information: Hazard statement:
H314: Causes severe skin burns and eye damage.
H412: Harmful to aquatic life with long lasting effects.

Precautionary statement:

P260: Do not breathe dust.
P264: Wash hands thoroughly after handling.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310: Immediately call a POISON CENTER or doctor.
P363: Wash contaminated clothing before reuse.
P405: Store locked up.
P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

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

Chemical Name	CAS #	%	EINECS
Stannous chloride, dihydrate	10025-69-1	98-100%	231-868-0 [anhydrous]

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. 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 BURNS. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: CAUSES BURNS. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 3 Fire Fighting Measures

Suitable Extinguishing Media: Do not use water. Use dry chemical.

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

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

Section 4 Accidental Release Measures

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

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

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

Section 7 Handling & Storage

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

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

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Stannous chloride	Not established	Not established	Not established

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

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

Section 9 Physical & Chemical Properties

Appearance: Solid. White to pale yellow crystals. Odor: Slight odor. Odor threshold: Data not available pH: Data not available Melting / Freezing point: 38°C (100°F) Boiling point: Decomposes Flash point: Not flammable	Evaporation rate (= 1): Not applicable Flammability (solid/gas): Data not available Explosion limits: Lower / Upper: Not applicable Vapor pressure (mm Hg): Data not available Vapor density (Air = 1): Negligible Relative density (Specific gravity): 2.71 Solubility(ies): 118 g/100 ml water @ 323°C	Partition coefficient: Data not available Auto-ignition temperature: Data not available Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: SnCl ₂ ·2H ₂ O Molecular weight: 225.63
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Section 10 Stability & Reactivity

Chemical stability: Stable
Hazardous polymerization: Will not occur.
Conditions to avoid: Hygroscopic. Absorbs oxygen from the air and forms insoluble oxychloride. Avoid excessive temperatures.
Incompatible materials: Metals, strong oxidizing agents, strong reducing agents, strong acids, strong bases, bromine trifluoride, ethylene oxide, potassium, hydrogen peroxide, sodium, moisture, calcium carbide, hydrazine hydrate, organic nitrates.
Hazardous decomposition products: Hydrogen chloride, chlorine, tin/tin oxides.

Section 11 Toxicological Information

Acute toxicity: Oral-rat LD50: 2274 mg/kg
Skin corrosion/irritation: Data not available
Serious eye damage/irritation: Data not available
Respiratory or skin sensitization: Data not available
Germ cell mutagenicity: Data not available
Carcinogenicity: Data not available
 NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
 IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
 OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive toxicity: Data not available
STOT-single exposure: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory effects.
STOT-repeated exposure: Data not available
Aspiration hazard: Data not available
Potential health effects:
 Inhalation: Inhalation causes cough, sore throat, burning sensation, labored breathing, shortness of breath, wheezing.
 Ingestion: Ingestion causes abdominal pain, burning sensation, shock or collapse.
 Skin: Contact causes redness, pain and burns.
 Eyes: Contact causes redness, pain and severe burns.
Signs and symptoms of exposure: Exercise appropriate procedures to minimize potential hazards.
Additional information: RTECS #: XP8850000

Section 12 Environmental Information

Toxicity to fish: Brachydanio rerio (fish, fresh water), LC50 = >1000 mg/L/96 hours
Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacea), SG: 146 mg/L/64 hours
Toxicity to algae: Anabaena flos-aquae (Algae), EC50 = >5 mg/L/4 hours
Persistence and degradability: No data available
Bioaccumulative potential: No data available
Mobility in soil: No data available
PBT and vPvB assessment: No data available
Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations


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

Section 14 Transport Information (US DOT / CANADA TDG)

UN/NA number: UN3260 **Shipping name:** Corrosive solid, acidic, inorganic, n.o.s., (Stannous chloride)
Hazard class: 8 **Packing group:** III **Reportable Quantity:** No **Marine pollutant:** No
Exceptions: Limited quantity equal to or less than 5 kg **2012 ERG Guide #** 154

Section 15 Regulatory Information

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

Component	TSCA	CERCLA (RQ)	RCRA code	DSL	NDSL	WHMIS Classification
Stannic chloride, anhydrous	Listed	Not listed	Not listed	Listed	Not listed	 E

Section 16 Additional Information

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

SAFETY DATA SHEET

1. Identification

Product identifier: TIN METAL

Other means of identification
Product No.: 4144, 4150

Recommended use and restriction on use

Recommended use: Not available.
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company Name: Avantor Performance Materials, Inc.
Address: 3477 Corporate Parkway, Suite 200
Center Valley, PA 18034

Telephone: Customer Service: 855-282-6867

Fax:
Contact Person: Environmental Health & Safety
e-mail: info@avantormaterials.com

Emergency telephone number:
24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

2. Hazard(s) identification

Hazard classification

Label elements

Hazard symbol: No symbol

Signal word: Warning

Hazard statement: May form combustible dust concentrations in air.

Precautionary statement Not applicable

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Substances

Chemical identity	Common name and synonyms	CAS number	Content in percent (%) [*]
TIN		7440-31-5	100%

^{*} All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information:	Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
Ingestion:	Rinse mouth thoroughly. Get medical attention if symptoms occur.
Inhalation:	Move to fresh air. Get medical attention if symptoms persist.
Skin contact:	Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. Wash contaminated clothing before reuse.
Eye contact:	Flush thoroughly with water. If irritation occurs, get medical assistance.

Most important symptoms/effects, acute and delayed

Symptoms: May cause irritation to skin, eyes, and respiratory tract.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically.

5. Fire-fighting measures

General fire hazards: Powdered material may form explosive dust-air mixtures.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Dry sand, graphite powder, dry sodium chloride based extinguishers.

Unsuitable extinguishing media: Water.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed. Dust clouds may be explosive under certain conditions. Contact with strong oxidizers may cause fire.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unauthorized personnel away. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment.

Methods and material for containment and cleaning up: Avoid dust formation. Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination.

Notification Procedures: Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling: Avoid generation and spreading of dust. Ground/bond container and receiving equipment. Use personal protective equipment as required. Avoid contact with eyes, skin, and clothing. Avoid inhalation of dust. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities: Keep containers tightly closed. Store in cool, dry place. Store in a well-ventilated place.

8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
TIN	TWA	2 mg/m3	US. ACGIH Threshold Limit Values (2011)
TIN - as Sn	REL	2 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	2 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	2 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

Appropriate engineering controls No data available.

Individual protection measures, such as personal protective equipment

General information: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Use explosion-proof ventilation equipment.

Eye/face protection: Use tight fitting goggles if dust is generated.

Skin protection

Hand protection: Wear protective gloves.

Other: Wear suitable protective clothing.

Respiratory protection: In case of inadequate ventilation use suitable respirator.

Hygiene measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Provide eyewash station and safety shower.

9. Physical and chemical properties

Appearance

Physical state: Solid
Form: Granules
Color: Silver
Odor: Odorless

Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	231.9 °C
Initial boiling point and boiling range:	2,507 °C
Flash Point:	No data available.
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	0.13 kPa (1,609 °C)
Vapor density:	No data available.
Relative density:	7.31
Solubility(ies)	
Solubility in water:	Insoluble in water
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	630 °C Cloud ignition temperature. 430 °C Layer ignition temperature.
Decomposition temperature:	No data available.
Viscosity:	No data available.
Other information	
Molecular weight:	118.69 g/mol (Sn)

10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Hazardous polymerization does not occur.
Conditions to avoid:	Contact with incompatible materials. Heat, sparks, flames. Avoid dust formation.
Incompatible materials:	Acids. Halogens and halogenated compounds. Peroxides. Sulfur oxides.
Hazardous decomposition products:	None known.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	May cause irritation of the gastrointestinal tract.
Inhalation:	May cause irritation to the respiratory system.
Skin contact:	May cause irritation.
Eye contact:	May cause temporary eye irritation.

Information on toxicological effects**Acute toxicity (list all possible routes of exposure)****Oral****Product:** No data available.**Dermal****Product:** No data available.**Inhalation****Product:** No data available.**Repeated dose toxicity****Product:** No data available.**Skin corrosion/irritation****Product:** May cause skin irritation.**Serious eye damage/eye irritation****Product:** May irritate eyes.**Respiratory or skin sensitization****Product:** Not a skin sensitizer.**Carcinogenicity****Product:** This substance has no evidence of carcinogenic properties.**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ cell mutagenicity**In vitro****Product:** No mutagenic components identified**In vivo****Product:** No mutagenic components identified**Reproductive toxicity****Product:** No components toxic to reproduction**Specific target organ toxicity - single exposure****Product:** No data available.**Specific target organ toxicity - repeated exposure****Product:** No data available.**Aspiration hazard****Product:** Not classified**Other effects:**

None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

TIN

LC 50 (Rainbow trout, donaldson trout (Oncorhynchus mykiss), 28 d): > 0.17
- < 15.61 mg/l Mortality

Aquatic invertebrates

Product: No data available.

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and degradability

Biodegradation

Product: There are no data on the degradability of this product.

BOD/COD ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration factor (BCF)

Product: No data available on bioaccumulation.

Partition coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in soil: No data available.

Other adverse effects: The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated.

IMDG

Not regulated.

IATA

Not regulated.

15. Regulatory information

US federal regulations

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

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund amendments and reauthorization act of 1986 (SARA)

Hazard categories

Acute (Immediate) Chronic (Delayed) Fire Reactive Pressure Generating

SARA 302 Extremely hazardous substance

None present or none present in regulated quantities.

SARA 304 Emergency release notification

None present or none present in regulated quantities.

SARA 311/312 Hazardous chemical

Chemical identity	Threshold Planning Quantity
TIN	500 lbs

SARA 313 (TRI reporting)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

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

None present or none present in regulated quantities.

US state regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

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

TIN Listed

US. Massachusetts RTK - Substance List

TIN Listed

US. Pennsylvania RTK - Hazardous Substances

TIN Listed

US. Rhode Island RTK

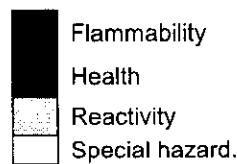
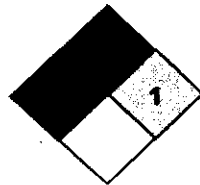
No ingredient regulated by RI Right-to-Know Law present.

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	Not in compliance with the inventory.
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

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

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

Issue date:	07-24-2014
Revision date:	No data available.
Version #:	1.0
Further information:	No data available.

Disclaimer:

THE INFORMATION PRESENTED IN THIS MATERIAL SAFETY DATA SHEET (MSDS/SDS) WAS PREPARED BY TECHNICAL PERSONNEL BASED ON DATA THAT THEY BELIEVE IN THEIR GOOD FAITH JUDGMENT IS ACCURATE. HOWEVER, THE INFORMATION PROVIDED HEREIN IS PROVIDED "AS IS," AND AVANTOR PERFORMANCE MATERIALS MAKES AND GIVES NO REPRESENTATIONS OR WARRANTIES WHATSOEVER, AND EXPRESSLY DISCLAIMS ALL WARRANTIES REGARDING SUCH INFORMATION AND THE PRODUCT TO WHICH IT RELATES, WHETHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING WITHOUT LIMITATION (>,<)> WARRANTIES OF ACCURACY, COMPLETENESS, MERCHANTABILITY, NON-INFRINGEMENT, PERFORMANCE, SAFETY, SUITABILITY, STABILITY, AND FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING, COURSE OF PERFORMANCE, OR USAGE OF TRADE. THIS MSDS/SDS IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PROPERLY TRAINED PERSON USING THIS PRODUCT, AND IS NOT INTENDED TO BE COMPREHENSIVE AS TO THE MANNER AND CONDITIONS OF USE, HANDLING, STORAGE, OR DISPOSAL OF THE PRODUCT. INDIVIDUALS RECEIVING THIS MSDS/SDS MUST ALWAYS EXERCISE THEIR OWN INDEPENDENT JUDGMENT IN DETERMINING THE APPROPRIATENESS OF SUCH ISSUES. ACCORDINGLY, AVANTOR PERFORMANCE MATERIALS ASSUMES NO LIABILITY WHATSOEVER FOR THE USE OF OR RELIANCE UPON THIS INFORMATION. NO SUGGESTIONS FOR USE ARE INTENDED AS, AND NOTHING HEREIN SHALL BE CONSTRUED AS, A RECOMMENDATION TO INFRINGE ANY EXISTING PATENTS OR TO VIOLATE ANY FEDERAL, STATE, LOCAL, OR FOREIGN LAWS. AVANTOR PERFORMANCE MATERIALS REMINDS YOU THAT IT IS YOUR LEGAL DUTY TO MAKE ALL INFORMATION IN THIS MSDS/SDS AVAILABLE TO YOUR EMPLOYEES.

Safety Data Sheet

Tin, Metal

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Tin, Metal
Recommended Use: Science education applications
Synonyms: Metallic Tin, Stannum
Distributor: Carolina Biological Supply Company
2700 York Road, Burlington, NC 27215
1-800-227-1150
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

Not a dangerous substance according to GHS classification criteria. No known OSHA hazards.

GHS Classification:

Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Tin, Metal	7440-31-5	100

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Skin Contact: After contact with skin, wash immediately with plenty of water.
Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use media suitable to extinguish surrounding fire.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Combustible in the form of dust when exposed to heat or by spontaneous chemical reaction with Br₂, BrF₃, S, Cl₂, ClF₃, Cu(NO₃), K₂O₂.
Hazardous Combustion Products: Tin Compounds

Section 6 Spill or Leak Procedures

Steps to Take in Case Material is Released or Spilled: No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section 8 of this (M)SDS. Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

Section 7 Handling and Storage

Handling: Avoid creating and inhaling dust.
Storage: Keep container tightly closed in a cool, well-ventilated place.
Storage Code: Green - general chemical storage

Safety Data Sheet

Section 8 Protection Information

<u>Chemical Name</u>	<u>ACGIH</u>		<u>OSHA PEL</u>	
	<u>(TWA)</u>	<u>(STEL)</u>	<u>(TWA)</u>	<u>(STEL)</u>
Tin, Metal	2 mg/m ³ TWA	N/A	2 mg/m ³ TWA (except oxides, as Sn)	N/A

Control Parameters

Engineering Measures:	Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.
Personal Protective Equipment (PPE):	Lab coat, apron, eye wash, safety shower.
Respiratory Protection:	No respiratory protection required under normal conditions of use.
Respirator Type(s):	None required where adequate ventilation is provided. If airborne concentrations are above the applicable exposure limits, use NIOSH/MSHA approved respiratory protection.
Eye Protection:	Wear chemical splash goggles when handling this product. Have an eye wash station available.
Skin Protection:	Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.
Gloves:	No information available

Section 9 Physical Data

Formula: Sn	Vapor Pressure: 1.3332 hPa at 1492 °C
Molecular Weight: 118.69	Evaporation Rate (BuAc=1): No data available
Appearance: Grey Metallic Solid	Vapor Density (Air=1): No data available
Odor: None	Specific Gravity: 7.28
Odor Threshold: No data available	Solubility in Water: Practically Insoluble
pH: No data available	Log Pow (calculated): No data available
Melting Point: 232 C	Autoignition Temperature: No data available
Boiling Point: 2507 C	Decomposition Temperature: No data available
Flash Point: No data available	Viscosity: No data available
Flammable Limits in Air: No data available	Percent Volatile by Volume: No data available

Section 10 Reactivity Data

Reactivity:	Not generally reactive under normal conditions.
Chemical Stability:	Stable under normal conditions.
Conditions to Avoid:	None known.
Incompatible Materials:	Chlorine, Halogens, Bromine Trifluoride, Strong acids, Strong oxidizing agents, Sulfur, Alkali and Alkaline Metals
Hazardous Decomposition Products:	Tin Compounds
Hazardous Polymerization:	Will not occur

Section 11 Toxicity Data

Routes of Entry	Ingestion, skin and eye contact.
Symptoms (Acute):	Respiratory disorders
Delayed Effects:	No data available

Acute Toxicity:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Inhalation LC50</u>
No data available	7440-31-5	Not determined	Not determined	Not determined

Carcinogenicity:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>IARC</u>	<u>NTP</u>	<u>OSHA</u>
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Tin, Metal

Safety Data Sheet

No data available

7440-31-5

Not listed

Not listed

Not listed

Chronic Effects:

Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.

Target Organ Effects:

Acute: No data available
Chronic: No data available

Section 12

Ecological Data

Overview: 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
Tin, Metal	7440-31-5	Not available

Section 13

Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): Not Determined

Section 14

Transport Information

Ground - DOT Proper Shipping Name:	Air - IATA Proper Shipping Name:
Not regulated for transport by US DOT.	Not regulated for air transport by IATA.

Section 15

Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Tin	7440-31-5	No	No	No	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

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

Toluidine Blue, 1%

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Toluidine Blue, 1%
Recommended Use: Science education applications
Synonyms: N/A
Distributor: Carolina Biological Supply Company
2700 York Road, Burlington, NC 27215
1-800-227-1150
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

GHS Classification:

Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Water	7732-18-5	99
Toluidine Blue	92-31-9	1

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Ingestion: If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use dry chemical, CO₂ or appropriate foam.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: N/A
Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section 8 of this (M)SDS. Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

Section 7 Handling and Storage

Handling: Keep container tightly closed in a cool, well-ventilated place.
Storage: Keep container tightly closed in a cool, well-ventilated place.
Storage Code: Green - general chemical storage

Safety Data Sheet

Section 8 Protection Information

<u>Chemical Name</u>	<u>ACGIH</u>	<u>OSHA PEL</u>		
	<u>(TWA)</u>	<u>(STEL)</u>	<u>(TWA)</u>	<u>(STEL)</u>
Toluidine Blue	N/A	N/A	N/A	N/A

Control Parameters

Engineering Measures:	No exposure limits exist for the constituents of this product. General room ventilation might be required to maintain operator comfort under normal conditions of use.
Personal Protective Equipment (PPE):	Lab coat, apron, eye wash, safety shower.
Respiratory Protection:	No respiratory protection required under normal conditions of use.
Eye Protection:	Wear chemical splash goggles when handling this product. Have an eye wash station available.
Skin Protection:	Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.
Gloves:	No information available

Section 9 Physical Data

Formula: See Section 3	Vapor Pressure: N/A
Molecular Weight: N/A	Evaporation Rate (BuAc=1): N/A
Appearance:	Vapor Density (Air=1): N/A
Odor: No data available	Specific Gravity: N/A
Odor Threshold: No data available	Solubility in Water: Soluble
pH: No data available	Log Pow (calculated): No data available
Melting Point: No data available	Autoignition Temperature: No data available
Boiling Point: 100 C	Decomposition Temperature: No data available
Flash Point: No data available	Viscosity: 10
Flammable Limits in Air: N/A	Percent Volatile by Volume: N/A

Section 10 Reactivity Data

Reactivity:	No data available
Chemical Stability:	Stable under normal conditions.
Conditions to Avoid:	None known.
Incompatible Materials:	Water-reactive materials, Strong oxidizing agents
Hazardous Polymerization:	Will not occur

Section 11 Toxicity Data

Routes of Entry	Inhalation, ingestion, eye or skin contact.
Symptoms (Acute):	None Known
Delayed Effects:	No data available

Acute Toxicity:	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Chemical Name Water	7732-18-5	Oral LD50 Rat 90000 mg/kg		
Toluidine Blue	92-31-9			

Carcinogenicity:	CAS Number	IARC	NTP	OSHA
Chemical Name Toluidine Blue	92-31-9	Not listed	Not listed	Not listed

Chronic Effects:	
Mutagenicity:	No evidence of a mutagenic effect.
Teratogenicity:	No evidence of a teratogenic effect (birth defect).

Safety Data Sheet

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., Mutation data cited.

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
Water	7732-18-5	No data available
Toluidine Blue	92-31-9	

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
Toluidine Blue	92-31-9	No	No	No	No	No

Section 16 Additional Information

Revised: 09/03/2014 **Replaces:** 09/03/2014 **Printed:** 09-11-2014

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health

Twilaq Industries, Inc.

1345 Seneca Avenue, Bronx, NY 10474 (718) 638-5860 1-(800) 950-SOAP

Product Information

Product/chemical name – **TOP GUARD**
Date Issued: 9/15/2011 Supersede Date: 8/1/2008
Prepared by – Regulatory Affairs

Ingredient Information

Chemical Name	Wgt %	Exposure Limit
Isopropyl Alcohol (CAS# 67-63-0)	<3.0	400 ppm
Oleic & Linoleic (CAS# 8002-26-4)	<5.0	ND
Alpha Terpineol (CAS# 8002-09-3)	<6.0	ND

Physical Data

Appearance / Odor – Amber Liquid, Pine odor.
Vapor Pressure - N/A
Solubility in water - Complete
Freezing Point (°F) – 32 °F
Boiling Point (°F) – 212 °F
Specific Gravity (Water =1) – 1.03
Percent Volatile by Vo.% – 90.5
Evap. Rate (Butyl Acetate =1) – 1.22
PH (1% soln) – 10.5 (9.5, 1.6% soln.)

Fire and Explosion Information

Flash Point (°F) - N/A
Flash point method – N/A
Special fire fighting procedures – N/A
Flammable Limits – N/A
Extinguishing media – Water spray, Carbon Dioxide
Unusual fire and explosion hazards - N/A

Health Hazard Data

Primary routes of entry – Skin contact, eye contact, inhalation.
Signs and symptoms – Irritation of skin, eyes and respiratory tract.
First Aid Procedures
Skin contact — In case of contact remove contaminated clothing and flush with water for at least 15 minutes.
Eye contact — Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes.
Inhalation — Avoid breathing solution spray.
Ingestion — If swallowed do not induce vomiting. Give large quantities of water. Call a physician immediately. Never give anything by mouth to an unconscious person.

Reactivity Data

Stability – Stable
Conditions to avoid - N/A
Hazardous decomposition products - N/A
Incompatibility (materials to avoid) - N/A
Hazardous polymerization – N/A

Spill or Leak Procedures

Steps to be taken in case material is released or spilled – Use floor absorbent material to take up spills
Waste disposal information – Dispose of in state or federally approved landfill sites.

Special Protection Information

Respiratory Protection (specify type) – N/a Ventilation – N/A
Eye Protection – N/A
Other Protective Measures- Wear rubber gloves when handling concentrate.

Special Precautions

Precautionary labeling - Caution: **KEEP OUT OF REACH OF CHILDREN**
Contains: Isopropyl Alcohol (CAS# 67-63-0), Oleic & Linoleic (CAS# 8002-26-4), Alpha Terpineol (CAS# 8002-09-3)

Other handling and storage conditions – N/A

Additional Information

For information on appropriate emergency procedures, phone: (718) 638-5860
Neither this data sheet nor any statement contained herein grants or extends any license, express or implied in connection with patents issued or pending which may be the property of the manufacturer or others. The manufacturer based on its own studies and the work of others has assembled the information in this data sheet. The manufacturer makes no warranties, express or implied, as to the accuracy, completeness or adequacy of the information contained herein. The manufacturer shall not be liable (regardless of fault) to the vendee, the vendee's employees, or anyone for any direct, special or consequential damages arising out of or in connection with the accuracy, completeness, adequacy or furnishing to such information.

For chemical emergency, spill, leak, fire, exposure or accident call CHEMTREC (800) 424-9300 day or night.

HMIS RATING — Health 1 Flammability 0 Reactivity 0

N/A = NOT APPLICABLE NSR = NO SPECIAL REQUIREMENT ND = NOT DETERMINED

Aaron Industries, Incorporated

East Division

1874 Hwy 72 West
Clinton, S C 29325
Phone: 864-833-2067
Fax: 864-833-3159

Corporate Office

28966 Hwy 76 East
P.O. Box 305
Clinton, SC 29325
Phone : 864-833-0178
Fax: 864-833-5493

West Division

11865 S. Alameda Street
Lynwood, Ca. 90262
Phone: 323-567-2482
Fax: 323-566-6128

MATERIAL SAFETY DATA SHEET

TOPCARE ISOPROPYL ALCOHOL - 70%

Revised: 9/28/2006

SECTION I

Manufacturer:	Aaron Industries, Inc.
Address:	Highway 72 West, P.O. Box 305 Clinton, South Carolina 29325
Emergency Phone (Chemtrec):	(800) 424-9300
Generic Name:	Isopropyl Alcohol
Trade Name:	Isopropyl Alcohol
Chemical Family:	Pharmaceutical Preparation Medicament inside a glass, plastic, or metal container suitable for dispensing. May be overpacked in a cardboard or plastic container.
Chemical Ingredients:	Isopropyl Alcohol (CAS 67-63-0) Water

SECTION II

PHYSICAL DATA

Boiling Point:	(82°C for Isopropyl Alcohol 99%)
Vapor Pressure:	36mm Hg @ 25°C (Isopropyl Alcohol 99%)
Vapor Density (Air = 1):	2.6
Specific Gravity:	0.8830 - 0.8725
Percent Volatile by Volume:	100%
Evaporation Rate:	Unknown
Solubility in Water:	100%
Appearance and Odor:	Glass, metal, or plastic container, properly labeled. Contents are clear and colorless and may have a characteristic alcoholic odor.



Producers of Pharmaceuticals, Health & Beauty Aids & Food Grade Chemicals

MATERIAL SAFETY DATA SHEET
ISOPROPYL ALCOHOL - 70%

SECTION III

FIRE AND EXPLOSION HAZARD DATA

Flash Point: 21.7°C
Flammable Limits: Lower 5.0 Upper 12.0
Extinguishing Method: Water, chemical, carbon dioxide, or other methods as required.
Special Fire Fighting Precautions: Wear SCBA
Unusual Fire and Explosion Hazards: Combustible liquid. Avoid heat, sparks, and open flame.

SECTION IV

HEALTH HAZARD DATA

Threshold Limit Value: 400ppm (980mg/m³) – 500ppm (1225mg/m³)
Effects of Over Exposure: Unknown
Emergency First Aid Procedures: If on the skin (including eyes, nose, or mouth), flush with water.
If ingested, call a physician, pharmacist, or a Poison Control Center immediately.

SECTION V

REACTIVITY DATA

Stability Conditions to Avoid: Avoid excessive temperatures.
Keep away from open flames.
Incompatibility: None
Hazardous Decomposition Products: None
Hazardous Polymerization: None
Conditions to Avoid: Keep away from open flames.
Materials and Conditions to Avoid Completely: Caustics, amines, alkanolamines, aldehydes, strong oxidizing agents, and chlorinated compounds.

SECTION VI

SPILL OR LEAK PROCEDURE

Steps to be taken in case material is released or spilled: Clean up with damp cloth or moist sponge. Flush with water if necessary.
Waste Disposal Method: Incineration or land fill.

MATERIAL SAFETY DATA SHEET
ISOPROPYL ALCOHOL - 70%

SECTION VII

SPECIAL PROTECTION INFORMATION

Respiratory Protection:	None required
Ventilation:	Normal
Protective Gloves:	Recommended
Eye Protection:	Recommended (Safety Glasses or Face Shield)
Other Protective Equipment:	None

SECTION VIII

SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage:	Take care to avoid puncturing containers.
Other Precautions:	Avoid excessive temperatures. Keep away from open flames.

SECTION IX

OTHER INFORMATION

Keep this and all medication out of the reach of children.

	HMIS(USA)	NFPA(USA)	KEY
Health	2	1	4 = Severe
Flammability	3	3	3 = Serious
Reactivity	0	0	2 = Moderate
			1 = Slight
			0 = Minimal

Hazardous Materials Identification System (HMIS)
National Fire Protection Agency (NFPA)

This information herein is furnished without warranty of any kind. This information should be used only as a supplement to information already in your possession concerning this product. The determination of whether or under what conditions this product should be used by you or your employees is yours to make.

Safety Data Sheet

Tris Borate EDTA Buffer, 20X

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Tris Borate EDTA Buffer, 20X
Recommended Use: Science education applications
Synonyms: Electrophoresis Buffer, TBE Buffer Concentrate
Distributor: Carolina Biological Supply Company
2700 York Road, Burlington, NC 27215
1-800-227-1150
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtec: 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

DANGER



May damage fertility or the unborn child.

GHS Classification:
Reproductive Toxicity Category 1B

Other Safety Precautions: IF exposed or concerned: Get medical advice/attention.

Acute Toxicity Dermal Contains 14.6 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Vapor Contains 14.6 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Dust/Mist Contains 14.6 % 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>
Water	7732-18-5	85.4
Tris(Hydroxymethyl) Aminomethane	77-86-1	9.2
Boric Acid	10043-35-3	4.7
Ethylenediaminetetraacetic Acid, Disodium Salt, Dihydrate (EDTA Sodium)	6381-92-6	0.6
Sodium Hydroxide	1310-73-2	0.1

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Skin Contact: After contact with skin, wash immediately with plenty of water.
Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use dry chemical, CO₂ or appropriate foam.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.

Safety Data Sheet

Fire and/or Explosion Hazards: N/A
Hazardous Combustion Products: Carbon dioxide, Carbon monoxide, Nitrogen oxides

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. Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill. Avoid the generation of dusts during clean-up. Avoid creating and inhaling dust. 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. Vacuum or sweep up material and place in a disposal container

Section 7 Handling and Storage

Handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Avoid contact with skin and eyes.
Storage: Store locked up. Keep container tightly closed in a cool, well-ventilated place.
Storage Code: Suitable for any general chemical storage. Green - general chemical storage

Section 8 Protection Information

<u>Chemical Name</u>	<u>ACGIH</u>		<u>OSHA PEL</u>	
	<u>(TWA)</u>	<u>(STEL)</u>	<u>(TWA)</u>	<u>(STEL)</u>
Boric Acid	2 mg/m ³ TWA (inhalable fraction, listed under Borate compounds, inorganic)	6 mg/m ³ STEL (inhalable fraction, listed under Borate compounds, inorganic)	N/A	N/A
EDTA, Disodium Salt, Dihydrate	N/A	N/A	N/A	N/A
Sodium Hydroxide	N/A	N/A	2 mg/m ³ TWA	N/A

Control Parameters

Engineering Measures: Local exhaust ventilation, process enclosures, or other engineering controls are necessary when handling or using this product to avoid overexposure. Local exhaust ventilation may be necessary to control any air contaminants to within the TLV during the use of this product

Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.

Respiratory Protection: No respiratory protection required under normal conditions of use. Wear a NIOSH approved respirator if any exposure is possible.

Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: Nitrile

Section 9 Physical Data

Formula: See Section 3
Molecular Weight: N/A
Appearance: Liquid
Odor: No data available
Odor Threshold: No data available
pH: No data available
Melting Point: No data available

Vapor Pressure: N/A
Evaporation Rate (BuAc=1): N/A
Vapor Density (Air=1): N/A
Specific Gravity: approx. 1.17
Solubility in Water: Soluble
Log Pow (calculated): No data available
Autoignition Temperature: No data available

Safety Data Sheet

Boiling Point: 100 C
Flash Point: No data available
Flammable Limits in Air: N/A

Decomposition Temperature: No data available
Viscosity: No data available
Percent Volatile by Volume: N/A

Section 10

Reactivity Data

Reactivity: No data available
Chemical Stability: Stable under normal conditions.
Conditions to Avoid: Exposure to moisture
Incompatible Materials: Water-reactive materials, Acetic anhydride, Alkali Carbonates, Hydroxides, Alkali and Alkaline Metals
Hazardous Decomposition Products: Nitrogen oxides, Carbon dioxide, Carbon monoxide
Hazardous Polymerization: Will not occur

Section 11

Toxicity Data

Routes of Entry: Ingestion, Skin contact.
Symptoms (Acute): N/A
Delayed Effects: No data available

Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Water	7732-18-5	Oral LD50 Rat 90000 mg/kg		
Boric Acid	10043-35-3	Oral LD50 Rat 2660 mg/kg		
EDTA, Disodium Salt, Dihydrate	6381-92-6	Oral LD50 Rat 2000 mg/kg		

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Boric Acid	10043-35-3	Listed	Not listed	Not listed
EDTA, Disodium Salt, Dihydrate	6381-92-6	Not listed	Not listed	Not listed
Sodium Hydroxide	1310-73-2	Not listed	Not listed	Not listed

Chronic Effects:

Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: Evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: Evidence of negative reproductive effects.
Target Organ Effects:
Acute: See Section 2
Chronic: Not listed as a carcinogen by IARC, NTP or OSHA., Mutation data cited., Reproductive data cited.

Section 12

Ecological Data

Overview: This material is not expected to be harmful to the ecology.
Mobility: No data
Persistence: Dissolved into water, Photodegradation
Bioaccumulation: No data
Degradability: No data
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
Water	7732-18-5	No data available
Boric Acid	10043-35-3	48 HR EC50 DAPHNIA MAGNA 115 - 153 MG/L
EDTA, Disodium Salt, Dihydrate	6381-92-6	
Sodium Hydroxide	1310-73-2	Aquatic LC50 (96h) Rainbow Trout 45.4 MG/L

Section 13

Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): Not Determined

Safety Data Sheet

Section 14

Transport Information

Ground - DOT Proper Shipping Name:
Not Regulated for Transport

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
Boric Acid	10043-35-3	No	No	No	No	No
EDTA, Disodium Salt, Dihydrate	6381-92-6	No	No	No	No	No
Sodium Hydroxide	1310-73-2	No	1000 lb RQ	1000lb (454kg) final RQ	No	No

Section 16

Additional Information

Revised: 08/29/2014

Replaces: 08/29/2014

Printed: 09-11-2014

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health

Issue Date: 07-Feb-2017

Supersedes Date: 03-Jun-2015

1. IDENTIFICATION

Product Identifier

Product Name Tuffner® Pre-Tape Spray, Aerosol

Other means of identification

UN/ID No UN1950

Recommended use of the chemical and restrictions on use

Recommended Use Tape Adherent

Details of the supplier of the safety data sheet

Supplier Address

Mueller Sports Medicine, Inc.
One Quench Drive
Prairie du Sac, WI 53578

Emergency Telephone Number

Company Phone Number Phone: (608) 643-8530 or 1-800-356-9522
Fax: (608) 643-2568 or 1-800-852-4334

Emergency Telephone (24 hr) INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance Clear aerosol

Physical state Liquid

Odor Alcohol

Classification

Flammable Aerosols	Category 1
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Sensitization, skin	Category 1
Specific target organ toxicity, single exposure	Category 3 (narcotic effects)
Hazardous to the aquatic environment, acute hazard	Category 2
Hazardous to the aquatic environment, long-term hazard	Category 2

Signal Word

Danger

Hazard statements

Extremely flammable aerosol. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause drowsiness or dizziness. Pressurized container: May burst if heated. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.



Precautionary Statements - Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Avoid breathing mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves. Wear eye/face protection.

Precautionary Statements – Response

If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. Call a poison center/doctor if you feel unwell. Specific treatment (see this label). If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. Collect spillage.

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

Precautionary Statements - Disposal

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

Hazard(s) not otherwise classified (HNOC)

Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

Supplemental information

89% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 89% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Petroleum Gases, Liquefied	68476-85-7	35 - 40
Acetone	67-64-1	20 - 30
n-Heptane	64742-49-0	15 - 20
Isopropyl Alcohol	67-63-0	5 - 15
Partially Hydrogenated Resin	65997-06-0	5 - 10

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

First Aid Measures**General Advice**

Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Wash contaminated clothing before reuse.

Eye Contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Skin Contact

Remove contaminated clothing immediately and wash skin with soap and water. Remove contaminated clothing. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

Inhalation

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

Ingestion

In the unlikely event of swallowing contact a physician or poison control center. Rinse

mouth.

Most important symptoms and effects, acute and delayed

Symptoms	Dermatitis. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Rash. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Alcohol resistant foam. Water fog. Carbon dioxide (CO₂). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable Extinguishing Media

Do not use water jet as an extinguisher, as this will spread the fire.

Specific Hazards Arising from the Chemical

Contents under pressure. Pressurized container may explode when exposed to heat or flame. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water.

Special protective equipment and precautions for firefighters

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Fire-fighting equipment/instructions

Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. In the event of fire and/or explosion do not breathe fumes.

General fire hazards

Extremely flammable aerosol.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Remove all possible sources of ignition in the surrounding area. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Transfer by mechanical means such as vacuum truck to a salvage tank or other suitable container for recovery or safe disposal. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Environmental precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

Methods and material for containment and cleaning up

Refer to attached safety data sheets and/or instructions for use. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Use water spray to reduce vapors or divert vapor cloud drift. Prevent product from entering drains. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.

7. HANDLING AND STORAGE**Precautions for safe handling**

Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Avoid release to the environment. Do not empty into drains. For additional information on equipment bonding and grounding, refer to the Canadian Electrical Code in Canada, (CSA C22.1), or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity" or National Fire Protection Association (NFPA) 70, "National Electrical Code".

Conditions for safe storage, including any incompatibilities**Storage Conditions**

Level 1 Aerosol.

Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Refrigeration recommended. Keep out of the reach of children.

Incompatible Materials

Store away from incompatible materials (see Section 10 of the SDS).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA Table Z-1 Limits for Air Contaminants	NIOSH Pocket Guide to Chemical Hazards
Isopropyl Alcohol 67-63-0	TWA: 400 ppm (983 mg/m ³) STEL: 500 ppm (1230 mg/m ³)	PEL: 400 ppm (980 mg/m ³)	TWA: 400 ppm (980 mg/m ³) STEL: 500 ppm (1225 mg/m ³) IDLH: 2000 ppm [10% LEL]

TLV: Threshold Limit Value TWA: Time Weighted Average STEL: Short Term Exposure Limit PEL: Permissible Exposure Limit
IDLH: Immediately Dangerous to Life or Health

Biological Limit Values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen
Isopropyl Alcohol 67-63-0	40 mg/L	Acetone	Urine

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Chemical respirator with organic vapor cartridge and full face piece.

Skin and Body Protection Wear appropriate chemical resistant clothing and gloves.

Respiratory Protection Chemical respirator with organic vapor cartridge and full face piece.

General Hygiene Considerations When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid	Form	Aerosol
Appearance	Clear aerosol	Odor	Alcohol
Color	Clear	Odor Threshold	Not available

Property	Values	Remarks • Method
pH	Not available	
Melting Point/Freezing Point	-139.9 °F / -95.5 °C	Estimated
Boiling Point/Boiling Range	180.5 °F / 82.5 °C	Estimated
Flash Point	53.6 °F / 12.0 °C	Estimated
Evaporation Rate	Not available	
Flammability (Solid, Gas)	Not available	
Flammability or Explosive Limits		
Flammability Limit, Upper	12%	Estimated
Flammability Limit, Lower	2.5%	Estimated
Explosive Limit, Upper	Not available	
Explosive Limit, Lower	Not available	
Vapor Pressure	3150.6 hPa	Estimated
Vapor Density	Not available	
Relative Density	Not available	Estimated
Water Solubility	Not available	
Solubility in other solvents	Not determined	
Partition Coefficient	Not available	
Auto-ignition Temperature	458 °F / 236.67 °C	Estimated
Decomposition Temperature	Not available	
Viscosity	Not available	
Other Information		
Density	6.10 lbs/gal	Estimated
Flammability Class	Flammable IB	Estimated
Heat of Combustion (NFPA 30B)	8.96 kJ/g	Estimated
Percent Volatile	Not determined	
Specific Gravity	0.73	Estimated
VOC Content (Weight %)	100%	Estimated

10. STABILITY AND REACTIVITY

Reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical Stability

Material is stable under normal conditions.

Possibility of Hazardous Reactions

No dangerous reaction known under conditions of normal use.

Conditions to Avoid

Avoid temperatures exceeding the flash point. Avoid contact with incompatible materials.

Incompatible Materials

Acids. Strong oxidizing agents. Isocyanates. Chlorine.

Hazardous Decomposition Products

No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Eye Contact	Causes serious eye irritation.
Skin Contact	Causes skin irritation. May cause an allergic skin reaction.
Inhalation	Prolonged inhalation may be harmful. May cause drowsiness and dizziness. Headache, nausea, vomiting.
Ingestion	Expected to be a low ingestion hazard.

Product: Mueller Tuffner Pre-Tape Spray Aerosol (CAS Mixture)

Acute	Species	Test Results
Oral LD50	Mouse	14866.8184 mg/kg estimated
	Rat	26.911 g/kg estimated
Other LD50	Mouse	8640.1377 mg/kg estimated
	Rat	1.0476 g/kg estimated

Information on physical, chemical and toxicological effects

Symptoms	Dermatitis. May cause drowsiness and dizziness. Headache, nausea, vomiting. Rash. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction.
Acute toxicity	Narcotic effects. May cause an allergic skin reaction.

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

Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Respiratory sensitization	Not available.
Skin sensitization	May cause an allergic skin reaction.

Chronic effects Prolonged inhalation may be harmful.

Specific target organ toxicity –
Single exposure May cause drowsiness and dizziness.
Repeated exposure Not classified.

Aspiration hazard Not available.

12. ECOLOGICAL INFORMATION

Ecotoxicity Toxic to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

Aquatic	Species	Test Results
Crustacea EC50	Daphnia	662.8571 mg/L, 48 hours estimated
Fish LC50	Fish	5.8943 mg/L, 96 hours estimated

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

Bioaccumulation
 No data available.

Chemical Name	Partition Coefficient n-octanol / water (low Kow)
Isopropyl Alcohol	0.05

Mobility
 No data available.

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

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods
Disposal of Wastes Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Empty containers or liners may retain some product residues. Dispose of contents/container in accordance with local/regional/national/international regulations.

Contaminated Packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.

14. TRANSPORT INFORMATION

Note Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

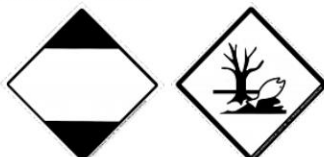
DOT
UN/ID No UN1950
Proper Shipping Name UN1950, AEROSOLS, 2.1, LIMITED QUANTITY
Hazard Class 2.1

IATA

UN/ID No UN1950
 Proper Shipping Name UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY, Y203
 Hazard Class 2.1

**IMDG**

UN/ID No UN1950
 Proper Shipping Name UN1950, AEROSOLS (HEPTANE), 2.1, LIMITED QUANTITY, MARINE POLLUTANT, EMS
 F-D, S-U
 Hazard Class 2.1

**15. REGULATORY INFORMATION****US Federal Regulations**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

CERCLA Hazardous Substance List (40 CFR 302.4)

ISOPROPYL ALCOHOL (CAS 67-63-0) Listed.

SARA 311/312 Hazard Categories

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

SARA 313

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

U.S. State Right-to-Know Regulations**Massachusetts RTK - Substance List**

ISOPROPYL ALCOHOL (CAS 67-63-0)

New Jersey Worker and Community Right-to-Know Act

ISOPROPYL ALCOHOL (CAS 67-63-0)

Pennsylvania Worker and Community Right-to-Know Law

ISOPROPYL ALCOHOL (CAS 67-63-0)

Rhode Island RTK

ISOPROPYL ALCOHOL (CAS 67-63-0)

California Proposition 65

This product is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

16. OTHER INFORMATION**NFPA****Health Hazards****Flammability****Instability****Special Hazards**

Not determined

Not determined

Not determined

Not determined

HMIS**Health Hazards****Flammability****Physical hazards****Personal Protection**

Not determined

Not determined

Not determined

Not determined

Issue Date:

07-Feb-2017

Supersedes Date:

03-Jun-2015

Revision Note:

This document was prepared to be consistent with the UN Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer

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

End of Safety Data Sheet



1. COMPANY AND PRODUCT IDENTIFICATION

iLoveToCreate
A Duncan Enterprises Company
5673 East Shields Avenue
Fresno, CA 93727
559-291-4444
559-291-9444 (Fax)
www.ilovetocreate.com

EMERGENCY TELEPHONE NUMBERS
Health Emergencies:
559-291-4444 7:00 am – 3:30 pm Pacific Std. Time
Spill and Off-Hour Health Emergencies:
800-424-9300 U.S. and Canada
703-527-3887 Outside U.S. and Canada (Collect)

Product Name: Tulip Dimensional Fabric Paint
Product Use/Description: Fabric Paint in various colors and finishes
Restrictions on use: None known.

2. HAZARDS IDENTIFICATION

Classification:	This substance does not meet the criteria for classification.
Hazard Statement:	No required statement.
Other Hazards:	None.
Signal Word:	None.
Precautionary Statement:	None.
Pictogram(s) by GHS:	None.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Detailed formulation is submitted by the client and it is proprietary information.
Products are made by physical manipulation and chemical reaction from the ingredients. These ingredient chemicals may not exist as its original formula in final products.

Reportable ingredients (if applicable):

Identity	CAS Number	Percentage / Range*
Mica	12001-26-2	0.5 – 2
Propylene Glycol	57-55-6	2 - 5
C.I. Pigment Red 122	980-26-7	1 – 5
Benzidine Orange	3520-72-7	1 – 5
Titanium Dioxide	13463-67-7	2 - 7
Carbon Black	1333-86-4	0.5 – 3
Isobutane	75-28-5	1 - 5

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

4. FIRST AID MEASURES

General Advice:	Follow general good first air measures.
On Inhalation:	Material cannot be inhaled.
On Skin Contact:	Wash affect skin areas thoroughly with soap and water. Consult a physician if irritation persists.
On Eye Contact:	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eye lids until irritation subsides. If irritation persists, contacts a physician.
On Ingestion:	Do not induce vomiting. Wash mouth out with water and let drink 1 to 2 glasses of water. Consult a physician.

Acute/Delayed Symptoms:	None.
Medical Advice:	Not toxic. On complaints, treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing Media	
Suitable extinguishing media:	Water. Foam. Dry powder. Carbon dioxide (CO ₂) Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media:	None.
Protection of Firefighters	
Specific hazards arising from the chemical:	No particular hazards.
Protective equipment for firefighters:	Use standard firefighting procedures and consider the hazards of other involved materials.
Special precautions for fire fighters:	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Will hazardous combustion occur?:	Will not occur.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Extinguish all ignition sources. Avoid sparks, flames, heat, and smoking. Ventilate. Avoid inhalation of vapors and contact with skin and eyes. Wear suitable protective clothing. See Section 8 of the MSDS for Personal Protective Equipment.
Environmental Precautions:	Do not allow to enter drains, sewer or water course.
Methods for Cleaning Up:	Clean up in accordance with all applicable regulations. Remove sources of ignition. Absorb spillage with non-combustible, absorbent material. Containers with collected spillage must be properly labeled with correct contents and hazard symbol.
Recommended Personal Protective Equipment:	See Section 8 of this SDS.

7. HANDLING AND STORAGE

Safe Storage:	Store in a cool, dry place. Keep in container closed when not in use. 40 – 100°F. Protect from freezing.
Safe Handling:	Wash thoroughly after handling. Removing contaminated clothing and wash before reuse. Avoid contact with eyes. Avoid ingestion and inhalation.
Known Incompatibilities:	None known.

8. EXPOSURE CONTROL AND PERSONAL PROTECTION

Occupational Exposure Limits:

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH REL
Mica	3 mg/m ³ TWA; The value is for particulate matter containing no asbestos and <1% crystalline silica. (Respirable fraction)	20 mppcf (Silicates) (Z-3)	3 mg/m ³ TWA
Titanium Dioxide	10 mg/m ³ TWA; Appendix A4 - Not Classifiable as a Human Carcinogen	15 mg/m ³ TWA	5,000 mg/m ³
Carbon Black	3.5 mg/m ³	TWA 3.5 mg/m ³	TWA 3.5 mg/m ³ Ca TWA 0.1 mg
Isobutane	No data.	No data.	TWA 800 ppm (1900 mg/m ³)

Appropriate Engineering Controls: No special requirements under ordinary conditions of use and with adequate ventilation.

Individual Protection measures, such as PPE (Personal Protective Equipment):

Personal Protection Equipment:	
Respiratory Protection:	None required under normal handling conditions.
Eye Protection:	Wear safety glasses with side shield.
Hand Protection:	Protective gloves are not required commonly, on permanent skin contact gloves for low mechanic and substantial stress are enough. Protective gloves to be applied have to comply with the specifications of EU directive 89/686/EEC and EN 374, e.g. Matter: Butyl Rubber; Thickness: >0,4mm; Penetration Time: >30minutes.
Skin Protection:	Skin protection products are not as effective as protective gloves, so suitable protective gloves are preferred if possible.
Further Information:	This product is classified as non-hazardous. However, the usual precautions for harmful chemicals must be observed to avoid contact with the skin, eyes, and respiratory tract.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State/Appearance:	Liquid
Color:	Various.
Odor:	Slight
Odor Threshold:	N/A
pH:	N/A
Boiling Point/Range:	>212°F
Melting Point/Range:	<32°F
Flash Point:	N/A
Evaporation Rate:	0.62
Vapor Density (Air=1):	1
Solubility(ies):	Miscible in water.
Vapor Pressure:	17.5 mm Hg @20°C (68°F)
Relative Density:	N/A
Viscosity:	N/A
Partition Coefficient (n-octanol/water), if applicable:	N/A
Explosive Properties:	N/A
Flammability: (Solid, gas)	N/A
Flammability Limit in Air	N/A
Upper/Lower	
Autoignition temperature:	N/A
Decomposition temperature:	N/A

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable under normal temperatures.
Conditions to Avoid:	N/A
Incompatible Materials:	N/A
Hazardous Decomposition Products:	At thermal decomposition temperature, carbon monoxide and carbon dioxide.
Possibility of Hazardous Reactions:	Will not occur.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Eye Contact –Serious Eye Damage or Irritation	Slight, transient.
Skin Contact – Skin Corrosion, Sensitization or	No hazard in normal industrial use.

Irritation:	
Ingestion – Carcinogenicity/Aspiration Hazard:	No hazard in normal industrial use.
Inhalation – Respiratory Sensitization/Toxicity:	No hazard in normal industrial use.
Symptoms related to the physical chemical and toxicological characteristics:	This product should be considered non – hazardous and has no known chronic effects.
Information on toxicological effects:	N/A
Delayed or Immediate effects:	N/A
Germ Cell Mutagenicity:	N/A
Specific target organ toxicity (single exposure):	N/A
Specific target organ toxicity (repeated exposure):	N/A
Chemicals listed on NTP, IARC or OSHA as a Carcinogen?:	N/A

Chemical Name:	Oral LD50	Dermal LD50	Inhalation LC50
Propylene Glycol	22gm/kg (22000mg/kg) dog 18350mg/kg (18350mg/kg) guinea pig 22gm/kg (22000mg/kg) mouse 20gm/kg (20000mg/kg) rat > 2080mg/kg (2080mg/kg) quail 18500mg/kg (18500mg/kg) rabbit	20800mg/kg (20800mg/kg) rabbit	No data.
C.I. Pigment Red 122	> 23gm/kg (23000mg/kg) rat	> 3gm/kg (3000mg/kg) rabbit	No data.
Benzidine Orange	> 5gm/kg (5000mg/kg) rat	No data.	No data.
Carbon Black	> 15400mg/kg (15400mg/kg) rat	> 3gm/kg (3000mg/kg) rabbit	No data.
Isobutane	No data.	No data.	57pph/15M (570000ppm) rat

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

12. ECOLOGICAL INFORMATION (NON-MANDATORY)

Eco toxicity:	Small amounts of this product are not expected to cause toxicity to the environment. Components of this material are not biomagnified or bioconcentrated in the environment.
Persistence and degradability:	N/A
Bioaccumulative potential:	N/A
Aquatic / Terrestrial warnings:	N/A
Mobility in soil:	N/A
Other adverse effects:	On appropriate handling and use as intended in our experience and on current information, the product doesn't cause any adverse effects to the environment.

13. DISPOSAL CONSIDERATIONS (NON-MANDATORY)

Disposal instructions:	Residues and wastes are to be brought to an incineration site.
Local disposal regulations:	Waste disposal should be in accordance with existing Federal, State, and Local environmental regulations.
Hazardous waste code:	N/A
Contaminated packaging:	Empty containers may contain product residue; follow SDS and label warnings even after they have been emptied.

14. TRANSPORTATION INFORMATION (NON-MANDATORY)

	DOT	IMDG	IATA
UN/ID number:	Not regulated.	Not regulated.	Not regulated.
Proper shipping name:			

Transport hazard class:			
Packing group (if applicable):			
Environmental Provisions:			
Special Precautions:			
Transport in bulk according to Annex II of MARPOL 73/78 and IBC Code			
Emergency Response Guide Number:		EmS-No:	

Pictograms		
<u>US:</u> X	<u>IATA; IMDG:</u> X	<u>Marine Pollutant:</u> X

15. REGULATORY INFORMATION (NON-MANDATORY)

US Federal Regulations:					
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D):			Not regulated.		
CERCLA (Superfund) reportable quantity (lbs.) (40 CFR 302.4)			None.		
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):			Not regulated.		
Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):			No		
Chemical Name:	CAS Number:	Reportable Quantity:	Threshold planning quantity:	Threshold planning quantity, lower value:	Threshold planning quantity, upper value:
None	X	X	X	X	X
Superfund Amendments and Reauthorization Act of 1986 (SARA)					
SARA 304 Emergency release notification:			No data.		
SARA 311/312 (40 CFR 370) Hazardous Chemical:			No		
SARA 313 (TRI reporting):			<u>Chemical Name:</u> None	<u>CAS Number:</u> X	<u>% by wt.</u> X
Drug Enforcement Administration (DEA) (21 CFR 1308.11-15):			Not controlled.		
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (Haps) List:			No data.		
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):			No data.		
Safe Drinking Water Act (SDWA):			No data.		
Canadian Domestic Substances List (DSL):			No data.		
State Regulations					
TSCA:			This product is manufactured in compliance with all provisions of the Toxic Substances Control Act, 15 U.S. C. 2601 et. Seq.		
FDA:			21 CFR 175.105		
SARA/Title III:			This product does not contain any substances at or above the reported threshold under Section 313, based on available data.		
Conforms to Non-Toxic ASTM-4236:			Products are certified in a program of toxicological evaluation by a nationally recognized toxicologist to contain no materials in sufficient quantities to be toxic or		

	injurious to humans or to cause acute or chronic health problems. These products are certified to be labeled in accordance with the voluntary chronic hazard labeling standard ASTM D-4236. In addition, there is no physical hazard as defined within 29 CFR Part 1910.1200(c).
California Proposition 65 Warning:	This product contains the following chemicals that are known to the State of California to cause cancer, birth defects, or other reproductive harm: Titanium Dioxide₁ and Carbon Black₁. ₁ Applies to airborne, unbound particles of respirable size. Chemicals noted above are <u>bound and non-respirable in the manufactured product.</u>
HMIS III Rating:	No data.
Unless a concentration is specified in Section 2 of the SDS, the above chemical(s) are present in trace amounts.	

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

16. OTHER INFORMATION

These recommendations and information contained in this MSDS have been compiled from sources believed to represent the most current information available when the MSDS was prepared. However, the manufacturer / distributor of this product does not provide any warranty, guaranty of representation as to the correctness or sufficient of this information. If this material is used in large amounts and/or an unusual manner, the user is obliged to determine what safety measures are appropriate, including the applicable and relevant workplace and environmental regulations pertaining to handling, use and disposal.

Table of Abbreviations

ACGIH:	American Conference of Governmental Industrial Hygienists	LD:	Lethal Dose
ANSI:	American National Standards Institute	MARPOL:	Marine Pollution
ASTM:	American Society for Testing Materials	mg / kg:	Milligram per Kilogram
°C:	Degrees Centigrade	mm:	Millimeter
CAA:	Clean Air Act	MSHA:	Mine Safety and Health Administration
CAS:	Chemical Abstract Service	N/A:	Not Applicable
CERCLA:	Comprehensive Environmental Response, Compensation & Liability Act	NFPA:	National Fire Protections Association
CFR:	Code of Federal Regulations	NIOSH:	National Institute for Occupational Safety and Health
CPR:	Controlled Products Regulations	NTP:	National Toxicology Program
DEA:	Drug Enforcement Act	OEL:	Over Exposure Limit
DOT:	Department of Transportation	OSHA:	Occupational Safety and Health Administration
DSL:	Canadian Domestic Substances List	PEL:	Permissible Exposure Limits
EmS:	Emergency Medical Goods Services	ppm	Parts Per Million
EPA:	Environmental Protection Agency	SARA	Superfund Amendment and Reauthorization Act
°F:	Degrees Fahrenheit	STEL	Short-Term Exposure Limit
FDA:	Food & Drug Administration	SDS:	Safety Data Sheet
g/l:	Grams per Liter	SDWA:	Safe Drinking Water Act
HAPs:	Hazardous Air Pollutants	TLV:	Threshold Limit Value
Hg:	Mercury	TRI:	Toxics Release Inventory
HMIS:	Hazardous Materials Identification System	TSCA	Toxic Substances Control Act
HNOC:	Hazard(s) Not otherwise classified	TWA	Time – Weighted Average
IARC:	International Agency for Research on Cancer	U.N.	United Nations
IATA:	International Air Transport Association	WHMIS	Workplace Hazardous Materials Information System
ID:	Identification / Identity	>	Greater Than
IDLH:	Immediate Danger to Life or Health	<	Less Than
IMDG:	International Maritime Dangerous Goods	73/78:	1973 & 1978
LC:	Lethal Concentration		

Creation Date:	Version: 2	Revision date:
01/15/09	1	
	2	3/13/15
	3	5/21/15
	4	3/21/16 - JL
	5	7/17/2017 - sp

END SAFETY DATA SHEET



1. COMPANY AND PRODUCT IDENTIFICATION

iLoveToCreate
 A Duncan Enterprises Company
 5673 East Shields Avenue
 Fresno, CA 93727
 559-291-4444
 559-291-9444 (Fax)

EMERGENCY TELEPHONE NUMBERS
Health Emergencies:
 559-291-4444 7:00 am – 3:30 pm Pacific Std. Time
Spill and Off-Hour Health Emergencies:
 800-424-9300 U.S. and Canada
 703-527-3887 Outside U.S. and Canada (Collect)

Product Name: TULIP SOFT FABRIC PAINT
Product Description: Brush - On Fabric Paint

2. HAZARDS IDENTIFICATION

HMIS Hazard Ratings for Product		Rating Scale:
Health	1	0 = Minimal
Flammability	0	1 = Slight
Reactivity	0	2 = Moderate
Personal Protection	See Section 8	3 = Serious
		4 = Severe
		* = Chronic Effects

3. COMPOSITION / INGREDIENT INFORMATION

The ingredients in this formulation are a trade secret. All ingredients in the formula are non-hazardous, unless specified in Sections 2 and 15.

4. FIRST AID MEASURES

Eye Contact:	Flush eyes with large amounts of water until irritation subsides. Consult a physician if irritation persists.
Skin Contact:	Wash affected skin areas thoroughly with soap and water. Consult a physician if irritation persists.
Inhalation:	Move subject to fresh air.
Ingestion:	If swallowed, give two glasses of water to drink. Consult a physician. Never give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

Autoignition Temperature:	Unknown
Flash Point:	Not Applicable
Upper Explosive Limit (%):	Not Applicable
Lower Explosive Limit (%):	Not Applicable
Extinguisher Media:	CO2, Dry Chemical, Foam – Use extinguishing media appropriate for surrounding fire
Special Firefighting Procedures:	Not Applicable
Fire & Explosion Hazards:	Not Applicable
NFPA Flammability Hazard Class:	0 = Insignificant

iLoveToCreate Safety Data Sheet – Tulip Soft Fabric Paint

6. ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Spills should be taken up with suitable absorbent material and placed in containers. Spill areas can be washed with water; collect wash water for approved disposal. Do not flush to storm sewer or waterway.

For safety and environmental precautions, please review entire Safety Data Sheet for necessary information.

7. HANDLING AND STORAGE

Storage Temperature:	40° - 100°F
Handling / Storage:	Protect from freezing; keep container sealed when not in use.
Ventilation Requirements:	General

8. EXPOSURE CONTROL AND PERSONAL PROTECTION

Conditions Under Which Personal Protective Equipment Required:	Normal work conditions, maintenance / repair.
Eye Protection Requirements:	Wear safety glasses with side shields.
Glove Requirements:	Gloves not normally required for foreseeable conditions of use.
Clothing Requirements:	Protective clothing is normally not necessary for foreseeable conditions of use.
Change / Removal of Clothing:	None required
Wash Requirements:	None
Respirator Requirements:	None required under normal handling conditions.
Ventilation Requirements:	General

9. PHYSICAL AND CHEMICAL PROPERTIES

Pure Material or Mixture:	Mixture
Physical Form:	Viscous liquid
Appearance / Physical Description:	Colored viscous liquid; slight odor
pH:	7.5 – 8.5
Boiling Point:	> 212°F
Melting / Freezing Point:	< 32°F
Odor Threshold:	Not Applicable
Solubility in Water:	Miscible
Partition Coefficient (n-octanol/water):	Not Applicable
Specific Gravity (Water = 1):	0.9 – 1.2
Bulk Density:	7.5 – 10.0 lb / gal
Volatiles:	>50% / wt
Vapor Pressure:	17.5 mm Hg @ 20°C (68°F)
Evaporation Rate (Water = 1):	0.62
Vapor Density (Air = 1):	1
Volatile Organic Compounds:	211 g / l
Autoignition Temperature:	Unknown
Flash Point:	Not Applicable
Oxidizing Properties:	Not Applicable

iLoveToCreate Safety Data Sheet – Tulip Soft Fabric Paint

10. STABILITY AND REACTIVITY

Stability:	Stable
Incompatibilities:	Materials that react with water
NFPA Reactivity Hazard Class:	0 = Insignificant
Hazardous Decomposition Products:	Carbon monoxide, carbon dioxide
Hazardous Polymerization:	Will not occur

11. TOXICOLOGICAL INFORMATION

Acute (Short-Term) Effects of Exposure	
Route of Entry	
Acute Effects – Eye:	Slight, transient
Acute Effects – Skin Contact:	No hazard in normal industrial use
Acute Effects – Inhalation:	No hazard in normal industrial use
Acute Effects – Ingestion:	No hazard in normal industrial use

Chronic (Long-Term) Effects of Exposure	
Effect of Chronic Exposure:	This product should be considered non – hazardous and has no known chronic effects.
Target Organs:	Not applicable
Carcinogenicity:	None

12. ECOLOGICAL INFORMATION

No Applicable Data

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods:	Waste disposal should be in accordance with existing Federal, State, and Local environmental regulations.
Empty Container Warnings:	Empty containers may contain product residue; follow SDS and label warnings even after they have been emptied.


14. TRANSPORT INFORMATION

U.S. Department of Transportation Information	
DOT Shipping Name:	Paints or Stains 149980 Sub. 2
DOT Hazard Class:	Non-hazardous
DOT Reportable Quantity:	None

United Nations Information	
U.N. Number:	None
U.N. Class:	None

iLoveToCreate Safety Data Sheet – Tulip Soft Fabric Paint

15. REGULATORY INFORMATION

TSCA:	All components are on the TSCA Inventory
FDA:	21CFR175.105
SARA/Title III:	This product contains no substances at or above the reported threshold under Section 313, based on available data.
	Products bearing the Nontoxic Product Seal are certified in a program of toxicological evaluation by a nationally recognized toxicologist to contain no materials in sufficient quantities to be toxic or injurious to humans or to cause acute or chronic health problems. These products are certified to be labeled in accordance with the voluntary chronic hazard labeling standard ASTM D-4236. In addition, there is no physical hazard as defined within 29 CFR Part 1910.1200(c).

16. OTHER INFORMATION

Table of Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
ANSI	American National Standards Institute
ASTM	American Society for Testing Materials
°C	Degrees Centigrade
CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CPR	Controlled Products Regulations
DOT	Department of Transportation
EPA	Environmental Protection Agency
°F	Degrees Fahrenheit
FDA	Food & Drug Administration
g / l	Grams per liter
DOT	Department of Transportation
EPA	Environmental Protection Agency
°F	Degrees Fahrenheit
FDA	Food & Drug Administration
g / l	Grams per liter
Hg	Mercury
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
LD	Lethal Dose
mg / kg	Milligram per kilogram
mm	Millimeter
MSHA	Mine Safety and Health Administration
N / A	Not Applicable
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
ppm	Parts per million
SARA	Superfund Amendment and Reauthorization Act
SDS	Safety Data Sheet
STEL	Short-Term Exposure Limit

iLoveToCreate Safety Data Sheet – Tulip Soft Fabric Paint

16. OTHER INFORMATION (Continued)

Table of Abbreviations (Continued)	
TSCA	Toxic Substances Control Act
TWA	Time - Weighted Average
U.N.	United Nations
WHMIS	Workplace Hazardous Materials Information System
>	Greater Than
<	Less Than

Creation Date:	01/00
Revision Date:	01/21/13
Technical Contact:	Frank Peters Research & Development Manager iLoveToCreate A Duncan Enterprises Company 5673 East Shields Avenue Fresno, CA 93727 559-291-4444 559-291-9444 (Fax)

Disclaimer

The information given and the recommendations made herein apply to our product(s) alone and not combined with any other product(s). Such are based on our research and on data from other reliable sources and are believed to be accurate. No guarantee of accuracy is made. It is the purchaser's responsibility before using any product to verify this data under their own operating conditions and to determine whether the product is suitable for their purposes.

SAFETY DATA SHEET

11/6/2015

SECTION I - IDENTIFICATION

Material Name

TURPNOID NATURAL

Company Information

Martin/F. Weber Company
2727 Southampton Road
Philadelphia, PA 19154-1293
Phone: 215-677-5600
Fax: 1-215-677-3336
Email: compliance@weberart.com

In the event of a transportation emergency, call CHEM-TEL (Contract MIS0003081). Within the US, Canada, Puerto Rico and the US Virgin Islands, call 1-800-255-3924. Outside North America, call collect 1-813-248-0585.

For health emergencies call the Poison Control Center: 1-800-222-1222

SECTION II - HAZARDS IDENTIFICATION

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

Skin Sensitization - Category 1

Hazardous to the Aquatic Environment - Acute - Category 1

Hazardous to the Aquatic Environment - Chronic - Category 1

Eye Irritation - Category 2

Hazardous to the Aquatic Environment - Chronic - Category 3

GHS Label Elements**Symbol(s)****Signal Word(s)**

Danger

Hazard Statement(s)

Causes serious eye irritation Harmful to aquatic life with long lasting effects May cause an allergic skin reaction Very toxic to aquatic life Very toxic to aquatic life with long lasting effects

Precautionary Statement(s)**Prevention**

Avoid breathing dust/fume/gas/mist/vapours/spray. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response

Get medical advice/attention. Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. Wash contaminated clothing before reuse. Collect spillage. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention.

SECTION III - COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

Hazardous Ingredients	CAS/EC #	PEL/TLV (MG/M#)	Max % Weight	NTP	IARC
AMINO-2-METHYL PROPANOL	124-68-5	N/A	2.95200	N	N
D-LIMONENE	5989-27-5	N/A	4.40800	N	N

SECTION IV - FIRST AID MEASURES

FIRST AID MEASURES: NONE REQUIRED. NO ACUTE HEALTH EFFECTS EXPECTED.

SECTION V - FIRE FIGHTING MEASURES

FLASH POINT (METHOD): n/a
 EXPLOSION LIMITS IN AIR (% BY VOLUME): n/a
 EXTINGUISHING MEDIA: Foam, CO2, Dry Chemical (Class B) or Halon, Water fog
 FIRE FIGHTING PROCEDURES: NO SPECIAL FIRE FIGHTING PROCEDURES REQUIRED
 UNUSUAL FIRE & EXPLOSION HAZARDS: NOT COMBUSTIBLE

AUTOIGNITION TEMPERATURE: N/A

SECTION VI - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE A MATERIAL IS SPILLED: Clean up in accordance with all applicable regulations. Absorb spillage with non-combustible, absorbent material. For waste disposal, see Section XIII

SECTION VII - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN DURING STORAGE AND HANDLING: Good industrial hygiene practice requires that exposure be maintained below the TLV. This is preferably achieved through the provision of adequate ventilation. When exposure cannot be adequately controlled in this way, personal respiratory protection should be employed.

SECTION VIII - EXPOSURE CONTROLS / PERSONAL PROTECTION

RESPIRATORY PROTECTION AND SPECIAL VENTILATION REQUIREMENTS: NONE REQUIRED
 OTHER PROTECTIVE EQUIPMENT (GLOVES, GOGGLES, ETC): NONE REQUIRED
 WORK/HYGIENE PRACTICES: NONE REQUIRED
 ENGINEERING CONTROLS: NONE REQUIRED

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: 178°F (81°C)
 VAPOR PRESSURE: n/a
 SPECIFIC VAPOR DENSITY (AIR=1): N/A
 SOLUBILITY IN WATER: N/A

MELTING POINT: N/A
 SPECIFIC GRAVITY: 1.02
 REACTIVITY IN WATER: NON-REACTIVE

SECTION X - STABILITY AND REACTIVITY

HAZARDOUS POLYMERIZATION PRODUCTS: N/A
STABILITY: STABLE CONDITIONS TO AVOID: N/A
INCOMPATIBILITY (MATERIALS TO AVOID): N/A
HAZARDOUS DECOMPOSITION PRODUCTS: N/A

SECTION XI - TOXICOLOGICAL INFORMATION

ACUTE EFFECTS ASSOCIATED WITH USE OF THIS MATERIAL: NONE EXPECTED
The summated LD50 is >50000 mg/kg.
The summated LC50 is 99999 mg/cubic meter.
This product is not considered to be a known or suspected human carcinogen by NTP, IARC or OSHA (see section III)

SECTION XII - ECOLOGICAL INFORMATION

Aquatic Hazard Statement(s)

Very toxic to aquatic life
Very toxic to aquatic life with long lasting effects
Harmful to aquatic life with long lasting effects

SECTION XIII - DISPOSAL CONSIDERATIONS

RCRA HAZARD CLASS (40 CFR 261): THIS PRODUCT IS NOT CLASSIFIED AS A HAZARDOUS WASTE.
WASTE DISPOSAL METHOD: DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION XIV - TRANSPORTATION INFORMATION

U.S. D.O.T. Not classified or regulated as a hazardous material by DOT

SECTION XV - REGULATORY INFORMATION

CONTENTS OF THIS SDS COMPLY WITH OSHA HAZARD COMMUNICATION STANDARD 29 CFR 1910.1200
EPA SARA TITLE III CHEMICAL LISTINGS
NONE

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

SECTION 313 TOXIC CHEMICALS (40 CFR 372):
NONE

INTERNATIONAL REGULATIONS

CANADIAN WHMIS: THIS PRODUCT IS A CONTROLLED PRODUCT UNDER CANADA'S WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. IT CONTAINS THE FOLLOWING TOXIC OR HIGHLY TOXIC MATERIALS:
BUTYLATED HYDROXY TOLUENE
D-LIMONENE
DIPROPYLENE GLYCOL MONOMETHYL ETHER

SUPPLEMENTAL STATE COMPLIANCE INFORMATION:

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) LISTED UNDER NEW JERSEY'S RIGHT TO KNOW PROGRAM:
BUTYLATED HYDROXY TOLUENE
DIPROPYLENE GLYCOL MONOMETHYL ETHER

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) REQUIRING NOTIFICATION TO THE STATE OF WASHINGTON UNDER THEIR CHILDREN'S SAFE PRODUCTS ACT:
NONE

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) LISTED IN FLORIDA'S TOXIC SUBSTANCE LIST:
2-Amino-2-methyl-1-propanol
Butylated hydroxytoluene (bht)
Dipropylene glycol methyl ether

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) LISTED IN MAINE'S PRIORITY CHEMICAL LIST:
NONE

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICALS CONSIDERED BY VERMONT AS BEING OF VERY HIGH CONCERN TO CHILDREN:
NONE

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) LISTED IN MASSACHUSETTS HAZARDOUS SUBSTANCE LIST:
2-Amino-2-methyl-1-propanol
Butylated hydroxytoluene (BHT)
Dipropylene glycol methyl ether

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) LISTED ON MICHIGAN'S CRITICAL MATERIALS REGISTER:
NONE

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) LISTED ON MINNESOTA'S HAZARDOUS SUBSTANCES LIST:
2,6-Di-tert-butyl-p-cresol
Dipropylene glycol methyl ether

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICAL(S) LISTED IN PENNSYLVANIA'S HAZARDOUS SUBSTANCES LIST:
1-Propanol, 2-amino-2-methyl-
Phenol, 2,6-bis(1,1dimethylethyl)-4-meth
Propanol, (2-methoxymethylethoxy)-
Propanol, oxybis-

Under CPSC's consumer product regulations (16CFR1500.3 and 1500.14), this product has the following required acute and chronic hazard labeling:

NONE

This adult product is certified to comply with the Consumer Product Safety Act (CPSA), the Poison Prevention Packaging Act, the Federal Hazardous Substances Act, (FHSA) and its Labeling for Hazardous Art Materials Act (LHAMA).

SECTION XVI - OTHER INFORMATION

Disclaimer: 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 contained 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. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

LAST REVISION DATE: 11/06/2015

Prepared by Duke OEM Toxicology

BRAND NAMES

THIS SDS APPLIES TO THE FOLLOWING BRAND NAMES

Brand Name	SKU	SKU Description
TURPENOID NATURAL	1810	2 OZ, 60 ML
	1811	4 OZ, 118 ML
	1812	8 OZ, 236 ML
	1813	16 OZ, 473 ML
	1814	32 OZ, 946 ML
	1815	128 OZ, 3.785 L
	1824	8 OZ, 236 ML
	1825	68 OZ, 2 L