

G.J. CHEMICAL COMPANY, INC. SAFETY DATA SHEET

1. PRODUCT IDENTIFIER

1.1 PRODUCT NAME-----> **Pentaerythritol 88%**
Technical Grade

PRODUCT NUMBER(S)-----> 219900 – Pentaerythritol 88%
219901 – Pentaerythritol 98%

TRADE NAMES AND SYNONYMS--> Penterythrite, 2,2-Bis(hydroxymethyl)-
1,3-propanediol

CAS-No: 115-77-5

CHEMICAL FAMILY: Diol, Glycol

1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

RECOMMENDED USE: Industrial: Intumescent materials, Lubricants, Grease, Metal Working Fluid, PVC stabilizers, Anti-foulant applications, Paints and Lacquers, Manufacture of polymer. Laboratory chemicals.
USES ADVISED AGAINST: No information available

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Company: **G.J. CHEMICAL CO., INC.**

Address: **40 VERONICA AVENUE**
SOMERSET, NJ 08873

Telephone: **1-973-589-1450**

Fax: **1-973-589-3072**

1.4 Emergency Telephone Number

Emergency Phone: **1-800-424-9300 (CHEMTREC)**

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29CFR 1910 (OSHA HCS)
Not a hazardous substance or mixture.

2.2 GHS Label elements, including precautionary statements

Not a hazardous substance or mixture.

Pictogram

Signal word None

Hazard statement(s)
Not a hazardous substance or mixture.

Precautionary statement(s)
Not a hazardous substance or mixture.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. INGREDIENTS

3.1 SUBSTANCE:

Ingredient	CAS No.	% by WT. Range	CLASSIFICATION
Pentaerythritol EC-No.204-104-9 Index-No.607-009-00-4 Reg.-No. 01-2119473985-20-XXXX	115-77-5	88-98	Not a hazardous substance or mixture.
Dipentaerythritol EC-No. 204-794-1 Reg.-No. 01-2119473-984-22-XXXX	126-58-9	2-12	Not a hazardous substance or mixture.

3.2 MIXTURE: Not applicable.

4. FIRST-AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES:

INHALATION: PENTAERYTHRITOL 88%
Remove from exposure, restore breathing. Keep warm and quiet.
Immediately notify physician.

EYES (SPLASH): PENTAERYTHRITOL 88%
Immediately flush eyes with water for 15 minutes. Remove contact lenses, if worn, after initial flushing. Hold eyelids open for complete irrigation. Immediately get medical attention.

SKIN (SPLASH): PENTAERYTHRITOL 88%

Wipe off excess material from skin then wash affected area with plenty of soap and water for at least 15 minutes.

Remove contaminated clothing. Consult a physician if irritation persists.

INGESTION: PENTAERYTHRITOL 88%

Do Not Induce vomiting. Never give anything by mouth to an unconscious person. Immediately contact a physician or poison control center, treat symptomatically.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:

Eye: May cause eye irritation.

Skin: May be harmful if absorbed through skin. May cause skin irritation.

Inhalation: May be harmful if inhaled. May cause irritation to the respiratory tract.

Ingestion: May be harmful if swallowed.

Chronic: None

Medical Conditions Aggravated by Exposure: This dust is considered a nuisance particulate. Non-irritating to the skin. May cause foreign body irritation to the eyes.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:

Specific details on antidote: No recommendation given.

5. FIRE FIGHTING MEASURES

Flash Point: >150°C (>302°F) COC

LEL %: N/A

Auto-ignition Temp: >400°C (>752°F)

UEL %: N/A

5.1 SUITABLE EXTINGUISHING MEDIA: Foam--> x CO2--> x Dry Chemical--> x Water-fog--> x Other-->

Unsuitable extinguishing media: Do not use waterjet.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR

MIXTURE: Closed containers may explode when exposed to extreme heat.

When heated to decomposition it emits toxic fumes. As with most organic solids, fire is possible at elevated temperatures.

CONDITIONS OF FLAMMABILITY: Not flammable or combustible.

HAZARDOUS COMBUSTION PRODUCTS: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and other unidentified organic compounds evolve when this material undergoes combustion.

5.3 ADVICE FOR FIREFIGHTERS: Solid; Shut off source. Wear NIOSH/MSHA approved self-contained positive pressure breathing apparatus (SCBA) for confined spaces and where there is exposure to vapors. Use full fire-fighting protective clothing. Water or foam may cause frothing. Keep containers tightly closed. Isolate from all sources of ignition.

6. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Eliminate ignition sources in the vicinity of the spill or released vapor. Immediately evacuate all nonessential people. Verify that responders are properly trained and wearing appropriate respiratory equipment and fire resistant protective clothing during cleanup operations.

6.2 ENVIRONMENTAL PRECAUTIONS:

Keep out of water sources, drains and sewers. Do not flush into surface water or sanitary sewer system.

6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:

Methods for cleanup and containment:

Use explosion proof equipment. Clean up spills in a manner that does not disperse dust into the air. Reduce airborne dust and prevent scattering by moistening with water. Finish cleaning by spreading water on the contaminated surface and allow it to evacuate through the sanitary sewer. Minimize breathing vapors and skin contact, ventilate confined areas, open all windows and doors.

Methods for disposal:

Pick up spill for recovery or disposal and place in a closed container. Assure conformity with applicable government regulations.

6.4 REFERENCE TO OTHER SECTIONS: See Sections 8 and 13.

7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING: Use personal protective equipment. Avoid contact with skin and eyes. Avoid dust formation. Avoid breathing vapors, mist or gas. Eliminate ignition sources in the vicinity of the spill or released vapor. Immediately evacuate all nonessential people. Verify that responders are properly trained and wearing appropriate respiratory equipment and fire resistant protective clothing during cleanup operations. Avoid work practices that may release dust in the atmosphere. Avoid contaminating soil or releasing material into sewage and drainage systems. Use non-sparking tools to open or close containers. Further processing of solid materials may result in the formation of

combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

Advice on general occupational hygiene:

Wash hands before breaks and after work. Keep away from food, drink and animal feeding stuffs. When using do not smoke.

STATIC HAZARD: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not be sufficient. For more information refer to National Fire Protection Association (NFPA 77) "Recommended Practice on Static Electricity".

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:

Follow maximum allowed pile heights specified in the BOCA codes or the NFPA manual. Local fire authorities should be notified for storage of this material in any quantity. Local permits are required for storage in warehouse quantities. Recommended storage temperature: 15 - 25°C. Store large quantities only in cool, dry areas in buildings designed to comply with OSHA 1910.106. Do not contact with oxidizing materials. Keep containers closed when not in use. Do not take internally. Storage class (TRGS 510): 13: Non Combustible Solids

CONTAINER WARNINGS: Empty only into inert or non-flammable atmosphere. Metal containers should be Bonded and Grounded when pouring. Emptying contents into a non-inert atmosphere where flammable vapors may be present could cause a flash fire or explosion due to electrostatic discharge. Empty containers release residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, or expose such containers to heat, sparks, static electricity or other sources of ignition. Do not attempt to clean. "Empty" containers should be completely drained.

7.3 SPECIFIC END USES: Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROL (PERSONAL PROTECTION)

8.1 CONTROL PARAMETERS:

Ingredient	CAS No.	% by WT. Range	Exposure Limits
Pentaerythritol	115-77-5 EC-No.204-104-9 Index-No.607-009-00-4 Reg.-No. 01-2119473985-20-XXXX	88-98	for dust: 5mg/m3 TWA (NIOSH) 10mg/m3 TWA (ACGIH) 10mg/m3 TWA (OSHA)

Dipentaerythritol	126-58-9	2-12	15mg/m3 PEL (OSHA)
	EC-No. 204-794-1		10mg/m3 TWA (ACGIH)
	Reg.-No. 01-2119473-984-22-XXXX		5mg/m3 for respirable dust.

Key: (PEL) = Permissible Exposure Limit OSHA
(TLV) = Threshold Limit Value OSHA & ACGIH
(STEL) = Short Term Exposure Limit ACGIH
(WEEL) = USA. Workplace Environmental Exposure Levels
(TWA) = Time Weighted Average
CAS = Chemical Abstracts Registry Number
IDLH = Immediate Danger to Life and Health
N.E. =None Established

8.2 EXPOSURE CONTROLS

EXPOSURE GUIDELINES: Consider the potential hazards of this material (Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended.

ENGINEERING CONTROLS: Provide general dilution or local exhaust ventilation in volume and pattern to keep concentrations within permitted exposure limits. All areas should be ventilated in accordance with OSHA Regulation 29 CFR Part 1910. Explosion proof motors should be used in mechanical ventilation.

RESPIRATORY PROTECTION: The specific respirator selected must be based on contamination levels found in the work place, must not exceed the working limits of the respirator and be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration (NIOSH-MSHA):

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US). For known vapor concentrations use a NIOSH/MSHA approved air purifying respirator with full face-piece and organic vapor cartridge and particulate filter for exposures >1 <10 times ACGIH TWA. For exposures greater than 10 times ACGIH TWA or for unknown vapor concentrations use NIOSH/MSHA approved positive pressure self-contained breathing apparatus (SCBA) with full face-piece.

BODY CLOTHING: Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged contact with this substance. Use chemical resistant apron or other impervious clothing. Remove and wash contaminated clothing before reuse. Users should determine acceptable performance characteristics of protective clothing.

SKIN PROTECTION: Employee must wear appropriate protective gloves to prevent contact with this substance.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

HYGIENE: Use good personal hygiene practices, wash hands before eating, drinking, smoking or using toilet facilities.

EYE/FACE PROTECTION: Use safety eyewear with splash-guards or face shield. Contact lenses should not be worn.

Emergency shower and eyewash should be easily accessible to the work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

Pentaerythritol 88% 115-77-5

Appearance-----> Crystalline solid

Color-----> White

Odor-----> Odorless

Odor Threshold-----> No data available

pH-----> No data available

Molecular Weight-----> 136.15amu

Melting Range-----> 253-258°C (487-496°F)

Boiling Range -----> 276°C (529°F) at 40 hPa (30 mmHg)

Specific Gravity-----> 1.38g/cm³ @25/4°C

Vapor Pressure-----> 5.2X10⁻⁴mmHg (275°F)

Vapor Density (air=1)-----> N/A

Water Solubility-----> 62g/L water@20°C (68°F) (OECD Test 105)

Partition Coefficient n-Octanol/Water-> log Pow: -1.699@23°C (73°F)

Evaporation Rate (Butyl Acetate=1)----> No data available

Flash Point-----> >150°C (>302°F) COC

Upper Flammability Limit-----> No data available

Lower Flammability Limit-----> No data available

Auto-Ignition Temperature-----> (>400°C (>752°F)

Decomposition Temperature-----> No data available

Viscosity-----> No data available

Surface Tension-----> No data available

Explosive Properties-----> No data available

Oxidizing Properties-----> No data available

9.2 Other Information:

Surface tension-----> 71 mN/m at 20°C (68°F)

10. STABILITY AND REACTIVITY INFORMATION

10.1 REACTIVITY: No data available.

10.2 CHEMICAL STABILITY: Unstable () Stable (X)

10.3 POSSIBILITY OF HAZARDOUS REACTIONS: No data available

HAZARDOUS POLYMERIZATION: May occur () Will not occur (X)

10.4 CONDITIONS TO AVOID: High dust concentrations, heat, sparks, pilot lights, static electricity, and open flame.

10.5 INCOMPATIBLE MATERIALS: Strong oxidants such as nitric acid, sodium nitrite, copper oxide, hydrogen peroxide. Strong oxidants such as liquid chlorine, oxygen, sodium hypochlorite, and inorganic acids.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS: Fumes, smoke, Carbon Monoxide, aldehydes and other decomposition products where combustion is not complete.

11. TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS:

Routes of Entry: Inhalation--> x Skin--> x Ingestion--> x Eye--> x

ACUTE HEALTH EFFECTS:

Effects of overexposure:

Eye> May cause eye irritation.

Skin> May be harmful if absorbed through skin. May cause skin irritation.

Inhalation> May be harmful if inhaled. May cause irritation to the respiratory tract.

Ingestion> May be harmful if swallowed.

Chronic: None

Medical Conditions Aggravated by Exposure> This dust is considered a nuisance particulate. Non irritating to the skin. May cause foreign body irritation to the eyes.

ACUTE TOXICITY:

The effects of overexposure shown in Section II are based on acute toxicity profiles. Typical values are:

Ingredient	Oral LD50(Rat)	Skin LD50(Rabbit)	Inhalation LC50
Pentaerythritol	>5110mg/kg (OECD Test 401)	N/A	
Dipentaerythritol	2000mg/kg		

PENTAERYTHRITOL –

SKIN CORROSION/IRRITATION: Skin - Rabbit Result: No skin irritation

SERIOUS EYE DAMAGE/EYE IRRITATION: No data available

RESPIRATORY OR SKIN SENSITIZATION: No data available

MUTAGENIC EFFECTS: reverse mutation assay *S. typhimurium* Result: negative

CARCINOGEN STATUS:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

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

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

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

REPRODUCTIVE TOXICITY:

Specific target organ toxicity (STOT-SE) - single exposure (Globally Harmonized System): Inhalation – No data available

Specific target organ toxicity (STOT-RE) - repeated exposure (Globally Harmonized System): no data available

ASPIRATION HAZARD: No data available

11.2 ADDITIONAL INFORMATION: No data available

DIPENTAERYTHRITOL –

SKIN CORROSION/IRRITATION: No data available

SERIOUS EYE DAMAGE/EYE IRRITATION: No data available

RESPIRATORY OR SKIN SENSITIZATION: In vivo assay - mouse Result: Does not cause skin sensitization. (OECD Test Guideline 429)

MUTAGENIC EFFECTS: Ames test *S. typhimurium* Result: negative

CARCINOGEN STATUS:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

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

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

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

REPRODUCTIVE TOXICITY: Rat - male and female - Oral No adverse effect has been observed in chronic toxicity tests

ASPIRATION HAZARD: No data available

11.2 ADDITIONAL INFORMATION: Repeated dose toxicity - rat - male and female - Oral - No observed adverse effect level - 1,000 mg/kg No adverse effect has been observed in chronic toxicity tests.

12. ECOLOGICAL INFORMATION

Pentaerythritol –

12.1 AQUATIC TOXICITY:

Toxicity to fish:

LC50 *Oryzias latipes* - > 100 mg/l - 96 h Semi static test
(OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates:

EC50 - *Daphnia magna* (Water flea) - 33,600 mg/l - 48 h

12.2 PERSISTENCE AND DEGRADABILITY: aerobic - Exposure time 28 d Result: 83.7 % - Readily biodegradable (OECD Test Guideline 310)

Biological Oxygen Demand (BOD): No data available

12.3 BIOACCUMULATIVE POTENTIAL: This material is not expected to significantly bioaccumulate.

Octanol/Water Partition Coefficient: log Pow: -1.699

Bio-concentration Factor (BCF): No data available

12.4 MOBILITY IN SOIL: No data available

12.5 RESULTS OF PBT AND vPvB:

PBT assessment results: This substance is not classified as PBT or vPvB.

12.6 OTHER ADVERSE EFFECTS: No data available

Dipentaerythritol –

12.1 AQUATIC TOXICITY:

Toxicity to fish:

LC50 *Oncorhynchus mykiss* (rainbow trout) - > 100 mg/l – 96h semi static test

(OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates:

EC50 Daphnia magna (Water flea) - > 100 mg/l - 48 h static test

(OECD Test Guideline 202)

Toxicity to algae:

EC50 static test - Desmodesmus subspicatus (green algae) - 100 mg/l - 72 static test (OECD Test Guideline 201)

12.2 PERSISTENCE AND DEGRADABILITY: aerobic - Exposure time 28 d Result: 7 % - Not readily biodegradable (OECD Test Guideline 301A)

Biological Oxygen Demand (BOD): No data available

12.3 BIOACCUMULATIVE POTENTIAL: No data available

Bio-concentration Factor (BCF): No data available

12.4 MOBILITY IN SOIL: No data available

12.5 RESULTS OF PBT AND vPvB:

PBT assessment results: This substance is not classified as PBT or vPvB.

12.6 OTHER ADVERSE EFFECTS: No data available

13. DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS: Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly it is the responsibility of the user to determine the proper storage, transportation, treatment, and or disposal methodologies for spent materials and residues at time of disposition. Dispose in accordance with all applicable disposal regulations.

CONTAMINATED PACKAGING: Dispose of as unused product.

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

RCRA: The unused product is a RCRA hazardous waste if discarded. The RCRA ID number is: None

DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 48 CFR 262

14. TRANSPORT INFORMATION

Land Transport (DOT)

14.1 USDOT ID Number-----> N/A

14.2 USDOT Shipping Name-----> Not DOT Regulated
Not Dangerous Goods

- 14.3 USDOT Hazard Classification-----> N/A
- USDOT Label Codes-----> N/A
- 14.4 USDOT Package Code-----> N/A
- 14.5 Environmental hazard-----> No
- 14.6 Special precautions for user-----> None

Sea Transport (IMDG)

- 14.1 UN Number:-----> N/A
- 14.2 Proper Shipping Name-----> Not Dangerous Goods
- 14.3 Hazard Class:-----> N/A
- USDOT Label Codes-----> N/A
- 14.4 Packing Group:-----> N/A
- 14.5 Environmental hazard-----> No

Air Transport (IATA)

- 14.1 UN Number:-----> N/A
- 14.2 Proper Shipping Name:-----> Not Dangerous goods
- 14.3 Hazard Class:-----> N/A
- USDOT Label Codes-----> N/A
- 14.4 Packing Group:-----> N/A
- 14.5 Environmental hazard-----> No

15. REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE:

SARA TITLE III (Superfund Amendment and Reauthorization Act)

SECTION 302 AND 304: Extremely Hazardous Substance List (40 CFR 355) - Not Listed

SECTION 313: Toxic Chemicals Listing (40 CFR 372.65) - Not Listed

SECTION 311/312: Hazard Categorization (40 CFR 370) – No SARA hazards.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)

SECTION 102(A) Hazardous Substances (40 CFR 302.4) - Not Listed

**Massachusetts Right to Know Components
Pentaerythritol CAS-No.115-77-5**

Pennsylvania Right to Know Components

Pentaerythritol CAS-No.115-77-5

2, 2, 2',2'-Tetrakis(hydroxymethyl)-3,3'-oxydipropan-1-ol CAS-No.126-58-9

New Jersey Right to Know Components

Pentaerythritol CAS-No.115-77-5

2, 2, 2',2'-Tetrakis(hydroxymethyl)-3,3'-oxydipropan-1-ol CAS-No.126-58-9

California Prop. 65 Components

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

TSCA (Toxic Substance Control Act)

Pentaerythritol CAS-No.115-77-5 and 2, 2, 2',2'-Tetrakis(hydroxymethyl)-3,3'-oxydipropan-1-ol CAS-No.126-58-9 are listed on the TSCA Inventory.

International Inventories:

<u>Country or Region</u>	<u>Inventory Name</u>	<u>On inventory yes/no</u>
<u>Australia</u>	Australian Inventory of Chemical Substances (AICS)	Yes
<u>Canada</u>	Domestic Substances List (DSL)	Yes
<u>Canada</u>	Non-Domestic Substances List (NDSL)	No
<u>China</u>	Inventory of Existing Chemical Substances in China (IECSC)	Yes
<u>Europe</u>	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
<u>Europe</u>	European List of Notified Chemical Substances (ELINCS)	No
<u>Japan</u>	Inventory of Existing and New Chemical Substances (ENCS)	Yes
<u>Japan</u>	Industrial Safety & Health Law Inventory (ISHL)	Yes
<u>Korea</u>	Existing Chemicals List (ECL)	Yes
<u>Mexico</u>	National Inventory of Chemical Substances (INSQ)	Yes
<u>New Zealand</u>	New Zealand Inventory	Yes
<u>Philippines</u>	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
<u>Switzerland</u>	Inventory of Notified New Substances (CHINV)	Yes
<u>Taiwan</u>	National Existing Chemical Inventory (NECI)	Yes
<u>United States & Puerto Rico</u>	Toxic Substances Control Act Inventory	Yes

15.2 CHEMICAL SAFETY ASSESSMENT: A chemical safety assessment has been carried out for this substance.

16. OTHER INFORMATION:

HMIS (Hazardous Materials Identification System)

Hazard Rating:

4-Extreme

3-High

2-Moderate

1-Slight

0-Insignificant

NFPA RATINGS (SCALE 0-4): Health=0 Fire=1 Reactivity=0
HMIS RATINGS (SCALE 0-4): Health=0 Fire=1 Reactivity=0 PPE=J

Hazard statement(s) from Section 2 and 3:
Not a hazardous substance or mixture.

Date of preparation-----> July 1, 1994
Revision Number-----> 1.4
Revision Content-----> General update all sections
Revision Date-----> October 25, 2018
Prepared by-----> T.G. Fenstermaker

Acronyms:

ACGIH - American Conference of Governmental Industrial Hygienists
AIHA - American Industrial Hygiene Association
ANSI - American Nation Standards Institute
API - American Petroleum Institute
CERCLA - Comprehensive Emergency Response, Compensation, and Liability Act
DOT - U.S. Department of Transportation
EC-50 - Effective Concentration
EPA - U.S. Environmental Protection Agency
HMIS - Hazardous Materials Information System
IARC - International Agency For Research On Cancer
LD-50 - Lethal Dose
MAK - Germany Maximum Concentration Values
MSHA - Mine Safety and Health Administration
NFPA - National Fire Protection Association
NIOSH - National Institute of Occupational Safety and Health
NOIC - Notice of Intended Change (Proposed change to ACGIH TLV)
NTP - National Toxicology Program
OPA - Oil Pollution Act of 1990
OSHA - U.S. Occupational Safety & Health Administration
PEL - Permissible Exposure Limit (OSHA)
RCRA - Resource Conservation and Recovery Act
REL - Recommended Exposure Limit (NIOSH)
SARA - Superfund Amendments and Reauthorization Act of 1986 Title III
SCBA - Self-Contained Breathing Apparatus
STEL - Short-Term Exposure Limit (generally 15 minutes)
TLV - Threshold Limit Value
TSCA - Toxic Substances Control Act
TWA - Time Weighted Average (8hr.)
WHMIS - Canadian Workplace Hazardous Materials Information System

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