

Product Name: TRIETHYLENE GLYCOL
Product Code: C00059
MSDS Number : C00059
Version Date: 02/09/1995

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Material Safety Data Sheet

Print date - August 1st, 1995 8:29 a.m. PS PSA PSFHV - 1.1 (1/8)

1. CHEMICAL PRODUCT and COMPANY IDENTIFICATION

Product Name: TRIETHYLENE GLYCOL
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SYNONYMS: ETHANOL, 2,2'-(1,2-ETHANEDIYLBIS-(OXY))BIS-
GLYCOL BIS(2-HYDROXYETHYL)ETHER
TRIGLYCOL

OLD WORLD INDUSTRIES I, LTD.
4065 COMMERCIAL AVENUE
NORTHBROOK, IL 60062
UNITED STATES

2. COMPOSITION / INFORMATION on INGREDIENTS

COMPONENT	CAS NUMBER	
TRIETHYLENE GLYCOL *	112-27-6	98%
TETRAETHYLENE GLYCOL *	112-60-7	1.6%

*OSHA hazardous according to 29 CFR 1910.1200

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

PRODUCT DESCRIPTION:

Triethylene glycol is a clear, colorless, mobile, syrupy liquid that is essentially odorless.

POTENTIAL HEALTH EFFECTS

ROUTES OF EXPOSURE:

Skin, eyes, inhalation, ingestion.

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3. HAZARDS IDENTIFICATION (Continued)

IMMEDIATE EFFECTS

SKIN:

Essentially non-irritating. Prolonged contact can cause softening of skin.

EYES:

Essentially non-irritating.

INHALATION:

No information...but inhalation mentioned as route.

INGESTION:

Practically non-toxic to humans: oral lethal dose 5-15 g/kg.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

4. FIRST AID MEASURES

SKIN:

Remove contaminated clothing and wash contaminated skin with large amounts of soap and water. If irritation persists, contact a physician.

EYES:

Flush eyes with water for at least 15 minutes. Contact a physician immediately. (if essentially non-irritating, why is a dr. needed?).

INHALATION:

Remove patient from contaminated area. If breathing has stopped, give artificial respiration, then oxygen if needed. Contact a physician immediately. Inhalation is not mentioned in the 'health hazards' section.

INGESTION:

DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

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5. FIRE FIGHTING MEASURES

NFPA (H, F, R): 1, 1, 0

FLAMMABLE PROPERTIES

UPPER EXPLOSIVE LMT : 9.2% in air by volume.
LOWER EXPLOSIVE LMT : 0.9% in air by volume.
FLASHPOINT (CC) : 176.8 deg. C (350.0 deg. F)

HAZARDOUS PRODUCTS OF COMBUSTION:
Carbon monoxide.

EXTINGUISHING MEDIA:

Use carbon dioxide or dry chemical for small fires; alcohol-type aqueous film-forming foam or water spray for large fires.

FIRE FIGHTING INSTRUCTIONS:

If potential exists for exposure to vapors or products of combustion, wear complete personal protective equipment, including self-contained breathing apparatus with full face-piece operated in pressure demand or other positive pressure mode. Water spray can be used to reduce intensity of flames and to dilute spills to nonflammable mixture. Use water spray to cool fire-exposed structures and vessels. Foam or water can cause frothing.

6. ACCIDENTAL RELEASE MEASURES

Eliminate ignition sources. Avoid eye or skin contact; see "Section 8 - Exposure Controls/Personal Protection" for respirator information. Place leaking containers in well-ventilated area with spill containment. If fire potential exists, blanket spill with alcohol-type aqueous film-forming foam or use water spray to disperse vapors. Contain spill to facilitate clean-up. Clean-up methods may include absorbent materials, vacuum truck, etc. Avoid runoff into storm sewers and ditches which lead to natural waterways.

For more information, see "Section 15 - Regulatory Information".

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7. HANDLING and STORAGE

Store in a cool, well-ventilated area. Keep away from heat, sparks and flame. Keep containers closed when not in use. Always open containers slowly to allow any excess pressure to vent. Use only DOT-approved containers. Use with adequate ventilation. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Wash thoroughly with soap and water after handling. Decontaminate soiled clothing thoroughly. Discard contaminated leather clothing.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS:

General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred.

PROTECTIVE EQUIPMENT

A safety shower and eye bath should be readily available.

SKIN:

For operations where spills or splashing can occur, use chemical protective clothing, including gloves (neoprene or rubber) and boots.

EYES:

Chemical safety goggles.

INHALATION:

Based on contamination level and working limits of the respirator, use a respirator approved by NIOSH/MSHA (the following are the minimum recommended equipment).

Use air-purifying respirator with full facepiece and organic vapor cartridge(s) or air-purifying full facepiece respirator with an organic vapor canister or a full facepiece powered air-purifying respirator fitted with organic vapor cartridge(s).

Positive-pressure full facepiece supplied-air respirator, or continuous-flow full facepiece supplied-air respirator.

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INHALATION: (Continued)

Unknown concentration (e.g., in emergencies) -
Positive-pressure self-contained breathing apparatus with
full facepiece. Positive-pressure supplied-air respirator
with full facepiece equipped with an auxiliary positive-
pressure self-contained breathing apparatus escape system.

EXPOSURE GUIDELINES:

Neither an OSHA PEL or ACGIH TLV has been established.

Immediately Dangerous to Life or Health (IDLH) level:
No value established.

9. PHYSICAL and CHEMICAL PROPERTIES

APPEARANCE : Clear, colorless liquid.
ODOR : Odorless.
PHYSICAL STATE : Liquid.
VAPOR PRESSURE : < 0.1 mmHg at 20 deg. C.
VAPOR DENSITY : 5.2 (Air = 1 at 20 deg. C)
BOILING POINT : 278 deg. C (532 deg. F) at 760 mmHg.
FREEZING POINT : -5 deg. C (23 deg. F)
SOLUBILITY : Complete in water
SPECIFIC GRAVITY : 1.125 (20/20)
MOLECULAR WEIGHT : 150.2

10. STABILITY and REACTIVITY

CHEMICAL STABILITY:

Stable and normally unreactive.

CONDITIONS TO AVOID:

Flame.

INCOMPATIBILITY:

Sulfuric acid and other dehydrating agents; nitric acid;
oxygen, hydrogen peroxide, perchloric acid and other strong
oxidizing agents.

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10. STABILITY and REACTIVITY (Continued)

HAZARDOUS DECOMPOSITION PRODUCTS:
Carbon monoxide.

HAZARDOUS POLYMERIZATION:
Will not occur.

11. TOXICOLOGICAL INFORMATION

Oral LD50 : 17 g/kg (rats); practically non-toxic to animals. Practically non-toxic to humans (oral lethal dose: 5-15 g/kg).

Dermal LD50 : >5 g/kg (rabbits); slightly toxic to animals by absorption.

Inhalation LC50 : >4.4 mg/l (rats, 4 hrs); practically non-toxic to animals.

Mutagenicity : In vitro, does not show mutagenic potential in Ames test. In vivo, no information.

Reproduction : No evidence of teratogenic effects in rats (oral, 4.5 g/kg/day). A developmental toxicity study was conducted with high oral doses of triethylene glycol in the mouse. There was no evidence in this study for either embryotoxic or teratogenic effects. The no observable effect dose for maternal toxicity was 5630 mg/kg/day. Minor fetotoxicity (reduced fetal body weights and increased skeletal variations) was present at 5630 mg/kg/day but not at the next lower dose of 563 mg/kg/day.

12. ECOLOGICAL INFORMATION

No information available

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13. DISPOSAL CONSIDERATIONS

All notification, clean-up and disposal should be carried out in accordance with federal, state and local regulations. Preferred methods of waste disposal are incineration or biological treatment in federal/state approved facility.

Hazardous waste (40 CFR 261): No.

14. TRANSPORT INFORMATION

This material is not regulated by the US Department of Transportation.

15. REGULATORY INFORMATION

RECIPIENT MUST COMMUNICATE ALL PERTINENT INFORMATION HEREIN TO EMPLOYEES AND CUSTOMERS.

STATE REGULATIONS

The following chemicals associated with the product are subject to the right-to-know regulations in these states:

TRIETHYLENE GLYCOL (112-27-6): PA, RI

U.S. FEDERAL REGULATIONS

We certify that all components are either on the TSCA inventory or qualify for an exemption.

SARA 313 : No components listed

ENVIRONMENTAL:

SARA 311

Acute health----- Yes
Chronic health----- Yes
Fire----- No
Sudden release of pressure-- No
Reactive----- No

OLD WORLD INDUSTRIES I, LTD.

4065 Commercial Avenue
Northbrook, Illinois 60062-1851
(847) 559-2000 • FAX (847) 559-1329

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15. REGULATORY INFORMATION (Continued)

INTERNATIONAL REGULATIONS

Listed on the chemical inventories of the following countries: Australia, Canada, Europe (EINECS), Japan and Korea.

16. OTHER INFORMATION

HAZARD RATINGS

	HEALTH	FLAMM	REACT	OTHER
NFPA	1	1	0	
HMIS	1	1	0	X

This information is intended solely for the use of individuals trained in the NFPA and HMIS systems.

REVISION INDICATORS:

The following sections have been revised:

SECTION 16: OTHER INFORMATION
HAZARD RATINGS

DISCLAIMER:

The information contained herein is accurate to the best of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones which exist.

Users must meet all applicable safety and health standards of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones which exist.