SIGMA-ALDRICH

Material Safety Data Sheet

Version 3.6 Revision Date 11/21/2012 Print Date 04/15/2013

1. PRODUCT AND COMPANY IDENTIFICATION			
Product name	:	Triethylene glycol	
Product Number Brand	:	90390 Fluka	
Supplier	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA	
Telephone	:	+1 800-325-5832	
Fax	:	+1 800-325-5052	
Emergency Phone # (For both supplier and manufacturer)	:	(314) 776-6555	
Preparation Information	:	Sigma-Aldrich Corporation Product Safety - Americas Region 1-800-521-8956	

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards No known OSHA hazards

GHS Classification

Skin irritation (Category 3) Eye irritation (Category 2B) Specific target organ toxicity - single exposure (Category 3)

GHS Label elements, including precautionary statements

Pictogram



Signal word	Warning
Hazard statement(s) H316 H320 H335	Causes mild skin irritation. Causes eye irritation. May cause respiratory irritation.
Precautionary statement(s P261 P305 + P351 + P338	 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
HMIS Classification Health hazard: Flammability: Physical hazards:	0 1 0
NFPA Rating Health hazard: Fire: Reactivity Hazard:	0 1 0

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms	:	Triglycol
Formula Molecular Weight		C ₆ H ₁₄ O ₄ 150.17 g/mol

No ingredients are hazardous according to OSHA criteria.

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability

Not flammable or combustible.

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Hygroscopic.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: > 480 min Material tested:Dermatril® (Aldrich Z677272, Size M)

Splash protection Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: > 30 min Material tested:Dermatril® (Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	clear, viscous liquid
Colour	colourless
Safety data	
рН	no data available
Melting point/freezing point	Melting point/range: -7 °C (19 °F) - lit.
Boiling point	125 - 127 °C (257 - 261 °F) at 0.1 hPa (0.1 mmHg) - lit.
Flash point	166 °C (331 °F) - closed cup
Ignition temperature	371 °C (700 °F)
Autoignition	no data available

temperature	
Lower explosion limit	0.9 %(V)
Upper explosion limit	9.2 %(V)
Vapour pressure	< 1 hPa (< 1 mmHg) at 20 °C (68 °F)
Density	1.124 g/mL at 20 °C (68 °F)
Water solubility	completely soluble, soluble
Partition coefficient: n-octanol/water	no data available
Relative vapour density	5.18 - (Air = 1.0)
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions no data available

Conditions to avoid no data available

Materials to avoid Strong oxidizing agents, Strong acids

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50 LD50 Oral - rat - 17,000 mg/kg

Inhalation LC50 Respiratory disorder

Dermal LD50

LD50 Dermal - rabbit - > 22,500 mg/kg

Other information on acute toxicity no data available

Skin corrosion/irritation Skin - Human - Mild skin irritation - Patch Test 24 Hrs.

Skin - rabbit - Mild skin irritation - 24 h

Serious eye damage/eye irritation Eyes - rabbit - Mild eye irritation

Respiratory or skin sensitization no data available

Germ cell mutagenicity no data available

Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

Reproductive toxicity - mouse - Oral Effects on Newborn: Growth statistics (e.g., reduced weight gain). Reproductive toxicity - mouse - Oral Effects on Newborn: Physical.

no data available

Teratogenicity

Developmental Toxicity - rat - Oral Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System) Inhalation - May cause respiratory irritation.

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

Aspiration hazard

no data available

Potential health effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion	May be harmful if swallowed.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.

Signs and Symptoms of Exposure

prolonged or repeated exposure can cause:, Nausea, Headache, Vomiting, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects

no data available

Additional Information RTECS: YE4550000

RTECS: YE4550000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish	LC50 - Leuciscus idus (Golden orfe) - > 100 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 46,500 mg/l - 48 h

Persistence and degradability Biodegradability

Bioaccumulative potential

no data available

Mobility in soil no data available

PBT and vPvB assessment

no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US) Not dangerous goods

IMDG

Not dangerous goods

ΙΑΤΑ

Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards

No known OSHA hazards

SARA 302 Components

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

SARA 313 Components

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

SARA 311/312 Hazards

No SARA Hazards

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

· · · · · · · · · · · · · · · · · · ·	CAS-No.	Revision Date
2,2'-(Ethylenedioxy)diethanol	112-27-6	1989-08-11
New Jersey Right To Know Components		
	CAS-No.	Revision Date
2,2'-(Ethylenedioxy)diethanol	112-27-6	1989-08-11

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.

16. OTHER INFORMATION

Further information

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.