Chemical Safety Data Sheet MSDS / SDS

2-(2-(2-ethoxyethoxy)ethoxy)ethanol SDS

Revision Date:2024-04-25 Revision Number:1

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

Product identifier

Product name: 2-(2-(2-ethoxyethoxy)ethoxy)ethanol

CAS: 112-50-5

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.

Uses advised against: none

Company Identification

Company: Chemicalbook.in

Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090

Telephone: +91 9550333722

SECTION 2: Hazards identification

Classification of the substance or mixture

Not classified.

GHS label elements, including precautionary statements

Signal word: No signal word

Hazard statement(s)

none

Precautionary statement(s)

Prevention

none

Response

none

Storage

none

Disposal

none

Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

Substance

Chemical name:	2-(2-(2-ethoxyethoxy)ethoxy)ethanol
Common names and synonyms:	2-(2-(2-ethoxyethoxy)ethoxy)ethanol
CAS number:	112-50-5
EC number:	203-978-9
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest.

Following skin contact

Rinse skin with plenty of water or shower.

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth.

Most important symptoms/effects, acute and delayed

No appreciable hazard in ordinary handling or use. (USCG, 1999)

Indication of immediate medical attention and special treatment needed, if necessary

Absorption, Distribution and Excretion

The in vitro rate of penetration of TGEE through human epidermis was reported as 0.024 mg/cm sq/hr.

SECTION 5: Firefighting measures

Suitable extinguishing media

Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Dry chemical, carbon dioxide, or alcohol foam. (USCG, 1999)

Specific hazards arising from the chemical

Combustible.

Special protective actions for fire-fighters

Use water spray, alcohol-resistant foam, powder, carbon dioxide.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Collect leaking liquid in sealable containers. Wash away remainder with plenty of water.

Environmental precautions

Collect leaking liquid in sealable containers. Wash away remainder with plenty of water.

Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

SECTION 7: Handling and storage

Precautions for safe handling

NO open flames. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

Conditions for safe storage, including any incompatibilities

Separated from strong oxidants. Ventilation along the floor.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear safety spectacles.

Skin protection

Protective gloves.

Respiratory protection

Use ventilation.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Liquid.
Colour:	Colourless.
Odour:	ODORLESS
Melting point/freezing point:	-18.8 °C. Atm. press.:1 atm.
Boiling point or initial boiling point and boiling range:	256.67 °C. Atm. press.:766.808 mm Hg.;255.4 °C. Atm. press.:744.132 mm Hg.
Flammability:	Combustible.

Lower and upper explosion limit/flammability limit:	no data available
Flash point:	142 °C. Atm. press.: 1 013.25 hPa.
Auto-ignition temperature:	202 °C. Atm. press.: 1 013.25 hPa.
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	dynamic viscosity (in mPa s) = 7.8. Temperature: 20°C.
Solubility:	Miscible with most organic solvents.
Partition coefficient n-octanol/water:	log Pow = 0.51. Temperature: 25 °C.
Vapour pressure:	0.014 mm Hg. Temperature: 25 °C. Remarks: Extrapolated using experimentally derived Antoine constants.; 0.009 mm Hg. Temperature: 20 °C. Remarks: Extrapolated using experimentally derived Antoine constants. Equivalent to 1.15 Pa.
Density and/or relative density:	1 018 kg/m3. Temperature: 25 °C.
Relative vapour density:	(air = 1): 6.2
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

The substance can presumably form explosive peroxides. Reacts with strong oxidants.

Chemical stability

no data available

Possibility of hazardous reactions

CombustibleETHOXY TRIGLYCOL is a ethoxy-alcohol derivative. The ether being relatively unreactive. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert alcohols to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.

Conditions to avoid

no data available

Incompatible materials

Glycol ethers, glycols, ketones, and alcohols undergo violent decomposition in contact with 68-72% perchloric acid

Hazardous decomposition products

When heated to decomposition it emits acrid smoke and irritating fumes.

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 - rat (male) - 10 610 mg/kg bw.

Inhalation: no data available

Dermal: LD50 - rabbit (male) - 3 540 mg/kg bw.

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

The substance defats the skin, which may cause dryness or cracking.

Aspiration hazard

No indication can be given about the rate at which a harmful concentration of this substance in the air is reached on evaporation at 20°C.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50 - Pimephales promelas - > 10 000 mg/L - 96 h.

Toxicity to daphnia and other aquatic invertebrates: LC50 - Daphnia magna - > 10 000 mg/L - 48 h.

Toxicity to algae: EC50 - Not applicable - 7 000 mg/L - 96 h.

Toxicity to microorganisms: EC10 - Polybac POLYSEED - ca. 7 500 mg/L - 16 h.

Persistence and degradability

AEROBIC: In a mixture of triethylene glycol monoethyl ether and other higher homologs, BOD values 0, 7, and 8% of the theoretical BOD were reported for day 5, 10, and 20, respectively(1). A 5 day BOD test using acclimated mixed cultures resulted in an experimental BOD 69% that of the theoretical value(2). Triethylene glycol monoethyl ether was rapidly biodegraded in the BOD test with 38, 90, 94, and 100% degradation reported for 5, 10, 15, and 20 days, respectively(3). Filtered domestic fresh wastewater using non-acclimated seed gave biodegradation rates for triethylene glycol monoethyl ether of 8%, 47%, 63% and 71% in 5, 10,15 and 20 days, respectively(4). Filtered domestic salt wastewater using non-acclimated seed gave biodegradation rates for triethylene glycol monoethyl ether of 1%, 10%, 12% and 22% in 5, 10,15 and 20 days, respectively(4). A 5 day BOD test with effluent from a waste treatment plant at 20 deg C and non-acclimated seed gave a BOD of 0.05 g/g which was 3% of theoretical value of 1.89 g/g(4).

Bioaccumulative potential

An estimated BCF of 3 was calculated in fish for triethylene glycol monoethyl ether(SRC), using an estimated log Kow of -0.96(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc of triethylene glycol monoethyl ether can be estimated to be 10(SRC). According to a classification scheme(2), this estimated Koc value suggests that triethylene glycol monoethyl ether is expected to have very high mobility in soil.

Other adverse effects

no data available

SECTION 13: Disposal considerations

Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

UN Number

ADR/RID: Not dangerous goods. (For reference only, please check.)
IMDG: Not dangerous goods. (For reference only, please check.)
IATA: Not dangerous goods. (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: Not dangerous goods. (For reference only, please check.)
IMDG: Not dangerous goods. (For reference only, please check.)
IATA: Not dangerous goods. (For reference only, please check.)

Transport hazard class(es)

ADR/RID: Not dangerous goods. (For reference only, please check.)
IMDG: Not dangerous goods. (For reference only, please check.)
IATA: Not dangerous goods. (For reference only, please check.)

Packing group, if applicable

ADR/RID: Not dangerous goods. (For reference only, please check.)
IMDG: Not dangerous goods. (For reference only, please check.)
IATA: Not dangerous goods. (For reference only, please check.)

Environmental hazards

ADR/RID: No
IMDG: No
IATA: No

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

EC Inventory

Listed.

United States Toxic Substances Control Act (TSCA) Inventory

Listed.

China Catalog of Hazardous chemicals 2015

Not Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

Listed.

Korea Existing Chemicals List (KECL)

Listed.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

References

IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg

Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Other Information

Health effects of exposure to the substance have not been investigated adequately.Check for peroxides prior to distillation; eliminate if found.