ChemicalBook

Chemical Safety Data Sheet MSDS / SDS

TRIETHYLENE GLYCOL MONOBUTYL ETHER

Revision Date:2025-05-17 Revision Number:1

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

Product identifier

Product name	: TRIETHYLENE GLYCOL MONOBUTYL ETHER
CBnumber	: CB0453855
CAS	: 143-22-6
EINECS Number	: 205-592-6
Synonyms	: Triethylene glycol monobutyl ether,Butoxytriglycol

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
Address	: Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone	: 400-158-6606

SECTION 2: Hazards identification

Classification of the substance or mixture

Serious eye damage, Category 1

Label elements

Pictogram(s)

Signal word Danger

Hazard statement(s)

H318 Causes serious eye damage

Precautionary statement(s)

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continuerinsing.

Prevention

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

Response

.

P305+P354+P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P317 Get medical help.

Storage

none

Disposal

none

Other hazards

no data available

SECTION 3: Composition/information on ingredients

Substance

Product name	: TRIETHYLENE GLYCOL MONOBUTYL ETHER
Synonyms	: Triethylene glycol monobutyl ether,Butoxytriglycol
CAS	: 143-22-6
EC number	: 205-592-6
MF	: C10H22O4
MW	: 206.28

SECTION 4: First aid measures

Description of 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 and effects, both acute and delayed

no data available

Indication of any immediate medical attention and special treatment needed

Absorption, Distribution and Excretion

Human abdominal whole skin (2.54 cm sq) was mounted in a glass diffusion apparatus (at 30 +/- 1 degree C) and the diffusion of triethylene glycol monobutyl ether was monitored during a 12-hr period using gas chromatography (n=6). The integrity of the epidermal membranes was first assessed by measuring permeability of membranes to tritiated water. Epidermal membranes displaying permeability constants greater than 1.5 x 10E-3 cm/hr were deemed to have been damaged during preparation and were rejected. The mean steady state of absorption for

triethylene glycol monobutyl ether was 22.2 ug/cm sq/hr (SD +/- 8.59), which was 100-fold less than that of ethylene glycol monomethyl ether. Test material did not increase permeability of the membrane (damage ratio of 1.26).

SECTION 5: Firefighting measures

Extinguishing media

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

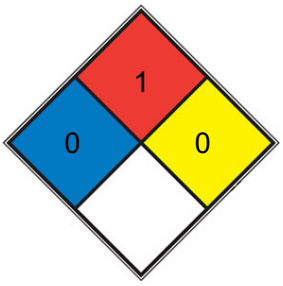
Specific Hazards Arising from the Chemical

Combustible.

Advice for firefighters

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

NFPA 704



■	HEALTH	0	Poses no health hazard, no precautions necessary and would offer no hazard beyond that of ordinary combustible materials
■	FIRE	1	Materials that require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur. Includes some finely divided suspended solids that do not require heating before ignition can occur. Flash point at or above 93.3 °C (200 °F). (e.g. mineral oil, ammonia)
■	REACT	0	Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium,N2)
□	SPEC. HAZ.		

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Ventilation. Collect leaking and spilled liquid in sealable containers as far as possible. Wash away remainder with plenty of water.

Environmental precautions

Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Ventilation. Collect leaking and spilled liquid in sealable containers as far as possible. 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

Store the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible materials.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

Exposure 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

Eye/face protection

Wear safety goggles.

Skin protection

Protective gloves.

Respiratory protection

Use ventilation.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

Physical state	Liquid.
Colour	Colourless.
Odour	Mild smelling

Melting point/freezing point	-35.2 °C. Atm. press.:1 atm.
Boiling point or initial boiling point and boiling range	278 °C. Atm. press.:1 atm.
Flammability	Combustible.
Lower and upper explosion limit/flammability limit	no data available
Flash point	131 °C. Atm. press.:1 013.25 hPa.
Auto-ignition temperature	202 °C. Atm. press.:1 013.25 hPa.
Decomposition temperature	no data available
pH	7. Remarks:7; neutral.
Kinematic viscosity	kinematic viscosity (in mm2/s) = 9.2. Temperature:25.0°C. Remarks:Equivalent to a dynamic viscosity of 9.1 mPas.
Solubility	Very soluble in ethanol, methanol
Partition coefficient n-octanol/water	log Pow = 0.51. Temperature:25 °C.
Vapour pressure	0.003 mm Hg. Temperature:25 °C. Remarks:Experimentally derived value.;0.001 mm Hg. Temperature:25 °C. Remarks:Value from a QSAR.
Density and/or relative density	Ca. 989 kg/m3. Temperature:20 °C.
Relative vapour density	no data available
Particle characteristics	no data available

SECTION 10: Stability and reactivity

Reactivity

no data available

Chemical stability

no data available

Possibility of hazardous reactions

Combustible

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/female) - 5 170 mg/kg bw.
- Inhalation: LCLo - rat (male/female) - 1 200 mg/m3 air.
- 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

The substance is irritating to the eyes. The substance is mildly irritating to the skin.

STOT-repeated exposure

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

Aspiration hazard

A harmful contamination of the air will not or will only very slowly be reached on evaporation of this substance at 20°C.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50 - Leuciscus idus - 2 200 - 4 600 mg/L - 96 h.

Toxicity to daphnia and other aquatic invertebrates: LC50 - Daphnia magna - 2 210 mg/L - 48 h.

Toxicity to algae: EC10 - Desmodesmus subspicatus (previous name: Scenedesmus subspicatus) - 612.6 mg/L - 72 h.

Toxicity to microorganisms: Toxicity threshold (TT) or EC3 or (~NOEC) - Pseudomonas putida - 1 221 mg/L - 16 h.

Persistence and degradability

AEROBIC: The theoretical BODs for triethylene glycol monobutyl ether are 0, 5, and 24% for 5 days, 10 days, and 20 days, respectively, indicating that it will be partially removed from biological wastewater treatment plants(1).

Bioaccumulative potential

An estimated BCF of 3 was calculated in fish for triethylene glycol monobutyl ether(SRC), using an estimated log Kow of 0.02(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 monobutyl ether can be estimated to be 10(SRC). According to a classification scheme(2), this estimated Koc value suggests that triethylene glycol monobutyl ether is expected to have very high mobility in soil(SRC).

Toxics Screening Level

The initial threshold screening level (ITSL) for triethylene glycol monobutyl ether (synonym: butoxytriethylene glycol) is 18 µg/m3 (annual averaging time).

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/