

Chemical Safety Data Sheet MSDS / SDS

Tripropylene glycol

Revision Date:2024-12-21 Revision Number:1

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

Product identifier

Product name : Tripropylene glycol
CBnumber : CB3688489
CAS : 24800-44-0
EINECS Number : 246-466-0
Synonyms : 2-(2-(2-Hydroxypropoxy)propoxy)-1-propanol,TRI(PROPYLENE GLYCOL)

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

Not classified.

Label elements

Pictogram(s)

□

Signal word Warning

Hazard statement(s)

H303 May be harmful if swallowed

H315 Causes skin irritation

H319 Causes serious eye irritation

Precautionary statement(s)

P264 Wash hands thoroughly after handling.

P264 Wash skin thoroughly after handling.

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

Prevention

none

Response

none

Storage

none

Disposal

none

Other hazards

no data available

SECTION 3: Composition/information on ingredients

Substance

Product name	: Tripropylene glycol
Synonyms	: 2-(2-(2-Hydroxypropoxy)propoxy)-1-propanol, TRI(PROPYLENE GLYCOL)
CAS	: 24800-44-0
EC number	: 246-466-0
MF	: C ₉ H ₂₀ O ₄
MW	: 192.25

SECTION 4: First aid measures

Description of first aid measures

If inhaled

Fresh air, rest.

Following skin contact

Remove contaminated clothes. 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. Give one or two glasses of water to drink.

Most important symptoms and effects, both acute and delayed

Non-irritating; no symptoms observed by any exposure route. (USCG, 1999)

Indication of any immediate medical attention and special treatment needed

Absorption, Distribution and Excretion

Is not absorbed through skin in acutely toxic amt even from prolonged & repeated contact.

SECTION 5: Firefighting measures

Extinguishing media

Water, foam, carbon dioxide, dry chemical.

Specific Hazards Arising from the Chemical

Special Hazards of Combustion Products: Acrid fumes of acids and aldehydes may form in fires. (USCG, 1999)

Advice for firefighters

Use water spray, powder, 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

Collect leaking and spilled liquid in sealable containers as far as possible. Wash away remainder with plenty of water.

Environmental precautions

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

Well closed.

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 spectacles.

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	ODORLESS
Melting point/freezing point	< -20 °C. Atm. press.:Ca. 101.3 kPa.
Boiling point or initial boiling point and boiling range	270 °C. Atm. press.:100.47 kPa.
Flammability	Combustible.
Lower and upper explosion limit/flammability limit	no data available
Flash point	145 °C. Atm. press.:100.11 kPa.

Auto-ignition temperature	232 °C. Atm. press.:> 101.08 - < 102.33 kPa.
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	kinematic viscosity (in mm ² /s) = 77.3. Temperature:20°C.;kinematic viscosity (in mm ² /s) = 23.4. Temperature:40°C.
Solubility	SOL IN WATER, METHANOL, ETHER
Partition coefficient n-octanol/water	log Pow = -0.379. Temperature:21.5 °C.;Pow = 0.418. Temperature:21.5 °C.
Vapour pressure	<0.01 mm Hg (25 °C)
Density and/or relative density	1.018
Relative vapour density	1.018
Particle characteristics	no data available

SECTION 10: Stability and reactivity

Reactivity

Attacks some plastics.

Chemical stability

no data available

Possibility of hazardous reactions

COMBUSTIBLE. TRIPROPYLENE GLYCOL is a ether-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. May attack some forms of plastics (USCG, 1999).

Conditions to avoid

no data available

Incompatible materials

no data available

Hazardous decomposition products

no data available

SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 - rat (male/female) - > 2 000 mg/kg bw.
- Inhalation: LC50 - rat - > 0.083 mg/L air.
- Dermal: LD50 - rabbit (male) - > 16 320 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

no data available

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 - *Oryzias latipes* - > 1 000 mg/L - 96 h.

Toxicity to daphnia and other aquatic invertebrates: EC50 - *Daphnia magna* - > 1 000 mg/L - 24 h.

Toxicity to algae: EC50 - *Pseudokirchneriella subcapitata* (previous names: *Raphidocelis subcapitata*, *Selenastrum capricornutum*) - > 1 000 mg/L - 72 h.

Toxicity to microorganisms: EC50 - activated sludge of a predominantly domestic sewage - > 1 000 mg/L - 3 h. Remarks: Respiration rate.

Persistence and degradability

By analogy to dipropylene glycol, a structurally similar compound, tripropylene glycol is expected to be resistant to biodegradation(SRC). Polypropylene glycol-utilizing bacteria were isolated by enrichment culture; one strain from this culture was able to grow using various polypropylene glycols (diol and triol types) as a carbon source(1). Dipropylene glycol in a five day BOD test, reached 0(2)-5%(3) of the theoretical oxygen demand. Over a four week period with dipropylene glycol added at 30 mg/L, only 0-3% by BOD was degraded(4). Biodegradation of dipropylene glycol proceeds through the oxidation of terminal alcohol groups leading to the cleavage of the ether linkage(1).

Bioaccumulative potential

An estimated BCF value of 0 was calculated for tripropylene glycol(SRC), using an estimated log Kow of -0.50(1,SRC) and a recommended regression-derived equation(2). According to a recommended classification scheme(3), this BCF value indicates that bioconcentration in aquatic organisms will not be an important fate process(SRC).

Mobility in soil

The Koc of tripropylene glycol is estimated as approximately 13(SRC), using an estimated log Kow of -0.50(1,SRC) and a regression-derived equation(2,SRC). According to a recommended classification scheme(3), this estimated Koc value suggests that tripropylene glycol has very high mobility in soil(SRC).

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: UN3077 (For reference only, please check.)

IMDG: UN3077 (For reference only, please check.)

IATA: UN3077 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)

IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)

Transport hazard class(es)

ADR/RID: 9 (For reference only, please check.)

IMDG: 9 (For reference only, please check.)

IATA: 9 (For reference only, please check.)

Packing group, if applicable

ADR/RID: III (For reference only, please check.)

IMDG: III (For reference only, please check.)

IATA: III (For reference only, please check.)

Environmental hazards

ADR/RID: Yes

IMDG: Yes

IATA: Yes

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?pagelD=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 been investigated, but none has been found.

Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.