ChemicalBook

Chemical Safety Data Sheet MSDS / SDS

Tri(propylene glycol) diacrylate

Revision Date:2026-05-31 Revision Number:1

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

Product identifier

Product name	: Tri(propylene glycol) diacrylate
CBnumber	: CB1301197
CAS	: 42978-66-5
EINECS Number	: 256-032-2
Synonyms	: TPGDA,TRIPROPYLENE GLYCOL DIACRYLATE

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	: 010-86108875

SECTION 2: Hazards identification

GHS Label elements, including precautionary statements

Symbol(GHS)

Signal word Warning

Precautionary statements

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

Continuerinsing.

P302+P352 IF ON SKIN: wash with plenty of soap and water.

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

P273 Avoid release to the environment.

P264 Wash skin thouroughly after handling.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

Hazard statements

H411 Toxic to aquatic life with long lasting effects

H335 May cause respiratory irritation

H319 Causes serious eye irritation

H317 May cause an allergic skin reaction

H315 Causes skin irritation

SECTION 3: Composition/information on ingredients

Substance

Product name	: Tri(propylene glycol) diacrylate
Synonyms	: TPGDA,TRIPROPYLENE GLYCOL DIACRYLATE
CAS	: 42978-66-5
EC number	: 256-032-2
MF	: C15H24O6
MW	: 300.35

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

4.4 Notes to physician

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water Foam Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

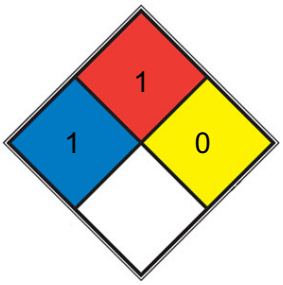
Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Prevent fire extinguishing water from contaminating surface water or the ground water system.

NFPA 704



■	HEALTH	1	Exposure would cause irritation with only minor residual injury (e.g. acetone, sodium bromate, potassium chloride)
■	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

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®).

Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed.

Light sensitive. Hygroscopic.

Storage class

Storage class (TRGS 510): 10: Combustible liquids

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

required

Body Protection

protective clothing

Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Control of environmental exposure

Do not let product enter drains.

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

a) Physical state	liquid
b) Color	light yellow
c) Odor	No data available
d) Melting point/freezing point	Melting point/range: < -20 °C - (ECHA)
e) Initial boiling point and boiling range	> 120 °C at 1,013.25 hPa - (ECHA)
f) Flammability (solid, gas)	No data available
g) Upper/lower flammability or explosive limits	No data available
h) Flash point	153 °C - closed cup - ISO 2719
i) Autoignition temperature	214 °C at 1,000 hPa
j) Decomposition temperature	No data available
k) pH	No data available
l) Viscosity	Viscosity, kinematic: 14.5 mm2/s at 20 °C - OECD Test Guideline 1146.7 mm2/s at 40 °C - OECD Test Guideline 114 Viscosity, dynamic: 15.1 mPa.s at 20 °C - OECD Test Guideline 1146.85 mPa.s at 40 °C - OECD Test Guideline 114
m) Water solubility	4 g/l at 20 °C - OECD Test Guideline 105
n) Partition coefficient n-octanol/water	log Pow: > 2.5 - < 2.7 at 23 °C - Bioaccumulation is not expected.
o) Vapor pressure	< 0.01 hPa at 20 °C
p) Density	1.03 g/cm3 at 25 °C - lit.
Relative density	1.03 g/mL at 25 °C(lit.)
q) Relative vapor density	>1 (vs air)
r) Particle characteristics	No data available
s) Explosive properties	No data available
t) Oxidizing properties	none
Solubility	Chloroform, Methanol (Slightly)

9.2 Other safety information

Relative vapor density

10.36 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.2 Possibility of hazardous reactions

No data available

10.3 Conditions to avoid

May polymerize on exposure to light. Avoid moisture.

Strong heating.

10.4 Incompatible materials

Oxidizing agentsStrong acids, Strong oxidizing agents, Strong bases, Brass, Copper, Steel (all types and surface treatments), Iron and iron salts.

10.5 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - female - > 2,000 mg/kg (Tri(propylene glycol) diacrylate, mixture of isomers) (OECD Test Guideline 423)

Inhalation: No data available

LD50 Dermal - Rabbit - male and female - > 2,000 mg/kg (Tri(propylene glycol) diacrylate, mixture of isomers) (OECD Test Guideline 402)

Skin corrosion/irritation

Remarks: Causes skin irritation.

Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Serious eye damage/eye irritation

Eyes - Rabbit (Tri(propylene glycol) diacrylate, mixture of isomers)

Result: Mild eye irritation - 24 h (OECD Test Guideline 405)

Remarks: Causes serious eye irritation.

Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse (Tri(propylene glycol) diacrylate, mixture of isomers)

Result: positive (OECD Test Guideline 429)

May cause an allergic skin reaction. Classified according to Regulation (EU) 1272/2008,

Annex VI (Table 3.1/3.2) (Tri(propylene glycol) diacrylate, mixture of isomers)

Germ cell mutagenicity

Test Type: gene mutation test (Tri(propylene glycol) diacrylate, mixture of isomers)

Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: In vitro mammalian cell gene mutation test (Tri(propylene glycol) diacrylate, mixture of isomers)

Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Result: positive

Remarks: (ECHA) (Tri(propylene glycol) diacrylate, mixture of isomers)

Test Type: In vivo micronucleus test

Species: Mouse

Application Route: Intraperitoneal

Method: OECD Test Guideline 474

Result: negative

Carcinogenicity

Classified based on available data. For more details, see section 2

Reproductive toxicity

Classified based on available data. For more details, see section 2

Specific target organ toxicity - single exposure

May cause respiratory irritation. - Respiratory system (Tri(propylene glycol) diacrylate, mixture of isomers)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Specific target organ toxicity - repeated exposure

Classified based on available data. For more details, see section 2

Aspiration hazard

Classified based on available data. For more details, see section 2

11.2 Additional Information

Repeated dose toxicity - Rat - male and female - Oral - NOAEL (No observed adverse effect level) - 375 mg/kg (Tri(propylene glycol) diacrylate, mixture of isomers)

Repeated dose toxicity - Rat - male and female - Dermal - 90 d - LOAEL (Lowest observed adverse effect level) - 20 mg/kg (Tri(propylene glycol) diacrylate, mixture of isomers)

RTECS: AT4690000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. (Tri(propylene glycol) diacrylate, mixture of isomers)

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish static test LC50 - Leuciscus idus (Golden orfe) - > 4.6 - < 10 mg/l - 96 h (Tri(propylene glycol) diacrylate, mixture of isomers) (DIN 38412)

Toxicity to daphnia static test EC50 - Daphnia magna Straus (Water flea) - 89 mg/l - 48 and other aquatic h (Tri(propylene glycol) diacrylate, mixture of isomers) invertebrates (Regulation (EC) No. 440/2008, Annex, C.2)

Toxicity to algae static test ErC50 - Desmodesmus subspicatus (green algae) - 65.9 mg/l - 72 h (Tri(propylene glycol) diacrylate, mixture of isomers) (DIN 38412)

Toxicity to bacteria Respiration inhibition EC50 - Sludge Treatment - > 1,000 mg/l - 30 min (Tri(propylene glycol) diacrylate, mixture of isomers) (OECD Test Guideline 209)

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d (Tri(propylene glycol) diacrylate, mixture of isomers)

Result: 48 % - Partially biodegradable.

(OECD Test Guideline 301B)

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

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

SECTION 14: Transport information

14.1 UN number

ADR/RID: 3082

IMDG: 3082

IATA-DGR: 3082

14.2 UN proper shipping name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tri(propylene glycol) diacrylate, mixture of isomers)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tri(propylene glycol) diacrylate, mixture of isomers)

IATA-DGR: Environmentally hazardous substance, liquid, n.o.s. (Tri(propylene glycol) diacrylate, mixture of isomers)

14.3 Transport hazard class(es)

ADR/RID: 9

IMDG: 9

IATA-DGR: 9

14.4 Packaging group

ADR/RID: III

IMDG: III

IATA-DGR: III

14.5 Environmental hazards

ADR/RID: yes

IMDG Marine pollutant: yes

IATA-DGR: yes

14.6 Special precautions for user

14.7 Incompatible materials

Oxidizing agentsStrong acids, Strong oxidizing agents, Strong bases, Brass, Copper, Steel (all types and surface treatments), Iron and iron salts.

Further information: Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulatory information

Other regulations

Please pay attention on the waste treatment should also comply with local regulations requirement.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

TWA: Time-Weighted Average

STEL: Short-Term Exposure Limit

LD50: Lethal Dose 50%

LC50: Lethal Concentration 50%

EC50: Effective Concentration 50%

PEL: Permissible Exposure Limit

TLV: Threshold Limit Value

IMDG: International Maritime Dangerous Goods Code

IATA: International Air Transport Association

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

DOT: US Department of Transportation

NFPA: National Fire Protection Association

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety and Health Administration