We create chemistry

Safety data sheet

1. Identification

Product identifier

1,2-Propandiol USP

Chemical name: propane-1,2-diol
CAS Number: 57-55-6

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

Relevant identified uses: feed, feeding stuff

Uses advised against: Use in artificial (theater) fog, Use in electronic cigarettes

Details of the supplier of the safety data sheet

Company:
BASF SE
67056 Ludwigshafen
GERMANY
Operating Division Nutrition and Health

Telephone: +49 621 60-48434
E-mail address: EN-global-safety-data@basf.com

Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

2. Hazards Identification

Classification of the substance or mixture

According to UN GHS criteria

No need for classification according to GHS criteria for this product.

Label elements

Globally Harmonized System (GHS)

The product does not require a hazard warning label in accordance with GHS criteria.

Other hazards

According to UN GHS criteria

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

3. Composition/Information on Ingredients

Substances

Chemical nature

Propane-1,2-diol
CAS Number: 57-55-6
EC-Number: 200-338-0

Hazardous ingredients (GHS)
According to UN GHS criteria

No particular hazards known.

Mixtures

Not applicable

4. First-Aid Measures

Description of first aid measures

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air.

On skin contact:
Wash thoroughly with soap and water

On contact with eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:
Rinse mouth and then drink 200-300 ml of water.

Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

Indication of any immediate medical attention and special treatment needed

Treatment: Symptomatic treatment (decontamination, vital functions).

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
carbon dioxide, dry powder, water spray, alcohol-resistant foam

Unsuitable extinguishing media for safety reasons:
water jet

Special hazards arising from the substance or mixture

Cool endangered containers with water-spray.

Advice for fire-fighters

Special protective equipment:
Wear a self-contained breathing apparatus.

Further information:
Contaminated extinguishing water must be disposed of in accordance with official regulations.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Handle in accordance with good industrial hygiene and safety practice.

Environmental precautions

Discharge into the environment must be avoided.

Methods and material for containment and cleaning up

For large amounts: Pump off product.
For residues: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr). Dispose of absorbed material in accordance with regulations.

7. Handling and Storage

Precautions for safe handling

Ensure thorough ventilation of stores and work areas.

Protection against fire and explosion:
Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place. Protect from air. Protect from atmospheric humidity. Protect contents from the effects of light.

Storage stability:
Storage temperature: <= 40 °C
The stated storage temperature should be noted.

Protect from temperatures above: 40 °C
The packed product will be damaged by high temperatures.

Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

8. Exposure Controls/Personal Protection

Control parameters

Components with occupational exposure limits

57-55-6: Propane-1,2-diol

Exposure controls

Personal protective equipment

Respiratory protection:
Respiratory protection in case of vapour/aerosol release. Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2)

Hand protection:

Suitable chemical resistant safety gloves (EN ISO 374-1) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc. Manufacturer's directions for use should be observed because of great diversity of types.
Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Eye protection:
Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures
Wearing of closed work clothing is required additionally to the stated personal protection equipment. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

State of matter:	liquid	
Form:	liquid	
Colour:	colourless	
Odour:	odourless	
Odour threshold:	not determined	
Melting point:	-59 °C Literature data.	(other)
Boiling point:	184 °C (1.003,2 hPa)	(Directive 92/69/EEC, A.2)
Flammability:	not readily ignited	(derived from flash point)
Lower explosion limit:	For liquids not relevant for classification and labelling., The lower explosion point may be 5 - 15 °C below the flash point.	
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Flash point:	104 °C	(Directive 92/69/EEC, A.9, closed cup)
Auto-ignition temperature:	> 400 °C	(Directive 84/449/EEC, A.15)
Thermal decomposition:	No decomposition if correctly stored and handled.	
pH value:	4 - 7 (20 °C)	(internal method)
Viscosity, kinematic:	No data available.	

Viscosity, dynamic:	43,428 mPa.s (25 °C) Literature data.	
Solubility in water:	miscible (20 °C)	(Directive 92/69/EEC, A.6)
Solubility (qualitative) solvent(s):	polar solvents soluble	
Partitioning coefficient n-octanol/water (log Kow):	-1,07 (20,5 °C; pH value: 6,2 - 6,4)	(Directive 92/69/EEC, A.8)
Vapour pressure:	0,2 hPa (25 °C)	(Directive 92/69/EEC, A.4)
Relative density:	1,03 (20 °C)	(Directive 92/69/EEC, A.3)
Density:	1,03 g/cm3 (20 °C)	(Regulation 440/2008/EC, A.3)
Relative vapour density (air):	not applicable	

Particle characteristics

Particle size distribution: The substance / product is marketed or used in a non solid or granular form. - Study scientifically not justified.

9.2. Other information

Information with regard to physical hazard classes

Explosives

Explosion hazard: not explosive

Oxidizing properties

Fire promoting properties: not fire-propagating

Pyrophoric properties

Self-ignition temperature:	Temperature: 20 °C	Test type: Spontaneous self-ignition at room-temperature.
	not self-igniting	

Substances and mixtures, which emit flammable gases in contact with water

Formation of flammable gases:

Forms no flammable gases in the presence of water. - Study scientifically not justified.

Corrosion to metals

No corrosive effect on metal.

Other safety characteristics

pKA:	The substance does not dissociate.	
Surface tension:	71,6 mN/m (21,5 °C; 1,01 g/l)	(Directive 92/69/EEC, A.5, OECD harmonized ring method)
Molar mass:	76,10 g/mol	
SAPT-Temperature:	Study scientifically not justified.	
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:	No corrosive effect on metal.	
Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water., Study scientifically not justified.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid

> 40 °C
Avoid humidity. Avoid daylight. Disregard of the conditions mentioned may result in undesirable decomposition reactions.

Incompatible materials

Substances to avoid:
Zinc, strong oxidizing agents

Hazardous decomposition products

Possible decomposition products:
carbonyl compounds, Dioxolan derivatives

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:
Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact. In animal studies the substance is virtually nontoxic after short-term inhalation.

Experimental/calculated data:
LD50 rat (oral): > 22.000 mg/kg

LC50 rabbit (by inhalation): > 317042 mg/m3 2 h

An aerosol was tested.

LD50 rabbit (dermal): > 2.000 mg/kg
No mortality was observed.

Irritation

Assessment of irritating effects:
Not irritating to the skin. Not irritating to the eyes. Aerosol exposure may cause temporary irritation of eyes, nose and throat.

Experimental/calculated data:
Skin corrosion/irritation rabbit: non-irritant (OECD Guideline 404)

Serious eye damage/irritation rabbit: non-irritant (OECD Guideline 405)

Respiratory/Skin sensitization

Assessment of sensitization:
Skin sensitizing effects were not observed in animal studies.

Experimental/calculated data:
Guinea pig maximization test guinea pig: Non-sensitizing.

Germ cell mutagenicity

Assessment of mutagenicity:
No mutagenic effect was found in various tests with bacteria and mammalian cell culture. The substance was not mutagenic in studies with mammals.

Carcinogenicity

Assessment of carcinogenicity:
In long-term animal studies in which the substance was given in high doses by feed, a carcinogenic effect was not observed.

Reproductive toxicity

Assessment of reproduction toxicity:
The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity

Assessment of teratogenicity:
No indications of a developmental toxic / teratogenic effect were seen in animal studies.

Specific target organ toxicity (single exposure)

Assessment of STOT single:
Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
Repeated oral uptake of the substance did not cause substance-related effects.

Aspiration hazard

not applicable

Other relevant toxicity information

Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms.
Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.

Toxicity to fish:
LC50 (96 h) 40.613 mg/l, Oncorhynchus mykiss (Fish test acute, static)

Aquatic invertebrates:
EC50 (48 h) 18.800 mg/l, Mysidopsis bahia

Aquatic plants:
EC50 (72 h) 24.200 mg/l (growth rate), Selenastrum capricornutum (OECD Guideline 201)

Microorganisms/Effect on activated sludge:
EC0 (18 h) > 20.000 mg/l, Pseudomonas putida (aquatic)

Chronic toxicity to fish:
Study scientifically not justified.

Chronic toxicity to aquatic invertebrates:
No observed effect concentration (7 d) 13.020 mg/l, Ceriodaphnia sp.

Assessment of terrestrial toxicity:
Study does not need to be conducted.

Soil living organisms:
Study scientifically not justified.

Terrestrial plants:
Study scientifically not justified.

Other terrestrial non-mammals:
Study scientifically not justified.

Persistence and degradability

Assessment biodegradation and elimination (H2O):
Readily biodegradable (according to OECD criteria).

Elimination information:
81,7 % CO2 formation relative to the theoretical value (28 d) (OECD Guideline 301 F) (aerobic, activated sludge, domestic)

90,6 % CO2 formation relative to the theoretical value (64 d) (OECD Guideline 306) (aerobic, Seawater)

Bioaccumulative potential

Assessment bioaccumulation potential:
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Mobility in soil

Assessment transport between environmental compartments:
Adsorption in soil: Study scientifically not justified.

Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative). Self classification

Other adverse effects

The substance is not listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

Additional information

Other ecotoxicological advice:
Do not release untreated into natural waters.

13. Disposal Considerations

Waste treatment methods

Must be disposed of or incinerated in accordance with local regulations.

Contaminated packaging:
Uncontaminated packaging can be re-used.
Packs that cannot be cleaned should be disposed of in the same manner as the contents.

14. Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Inland waterway transport

ADN

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

Transport in inland waterway vessel

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable

Sea transport

IMDG

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number or ID number	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Maritime transport in bulk according to IMO instruments

Regulation:	IBC-Code
Product name:	Propylene glycol
Pollution category:	OS
Ship Type:	Not applicable

15. Regulatory Information

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

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

16. Other Information

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a

Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

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