

according to Regulation (EC) No. 1907/2006

Creation Date 19-Nov-2009 Revision Date 22-Mar-2024 Revision Number 2

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Description: 1,2-Propanediol

Cat No. : C22087

Synonyms Propylene glycol

 CAS No
 57-55-6

 EC No
 200-338-0

 Molecular Formula
 C3 H8 O2

REACH registration number -

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

Recommended Use Laboratory chemicals.

Sector of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC21 - Laboratory chemicals

Process categories PROC15 - Use as a laboratory reagent

Environmental release category ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)

Uses advised against No Information available

1.3. Details of the supplier of the safety data sheet

Company

Thermo Fisher (Kandel) GmbH

Erlenbachweg 2, 76870 Kandel, Germany

Tel: +49 (0) 721 84007 280 Fax: +49 (0) 721 84007 300

Swiss distributor - Fisher Scientific AG Neuhofstrasse 11, CH 4153 Reinach

Tel: +41 (0) 56 618 41 11

https://www.fishersci.ch/ch/en/customer-help-

support/forms/email-us.html

E-mail address begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11 Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99 **CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

customers in Switzerland:

Tox Info Suisse Emergency Number: 145 (24hr)

Tox Info Suisse: +41-44 251 51 51 (Emergency number from abroad)

Chemtrec (24h) Toll-Free: 0800 564 402 Chemtrec Local: +41-43 508 20 11 (Zurich)

SECTION 2: HAZARDS IDENTIFICATION

1,2-Propanediol Revision Date 22-Mar-2024

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards

Based on available data, the classification criteria are not met

Health hazards

Based on available data, the classification criteria are not met

Environmental hazards

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

2.2. Label elements

None required

2.3. Other hazards

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB)

This product does not contain any known or suspected endocrine disruptors

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Component	CAS No	EC No	Weight %	CLP Classification - Regulation (EC) No 1272/2008
1,2-Propanediol	57-55-6	EEC No. 200-338-0	<=100	-

REACH registration number	-
---------------------------	---

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Eye ContactRinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

1,2-Propanediol Revision Date 22-Mar-2024

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if

symptoms occur.

Ingestion Do NOT induce vomiting. Get medical attention immediately if symptoms occur.

Inhalation Remove to fresh air. Get medical attention immediately if symptoms occur. If not breathing,

give artificial respiration.

Self-Protection of the First Aider No special precautions required.

4.2. Most important symptoms and effects, both acute and delayed

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically. Symptoms may be delayed.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

Extinguishing media which must not be used for safety reasons

No information available.

5.2. Special hazards arising from the substance or mixture

Keep product and empty container away from heat and sources of ignition. Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO2).

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Ensure adequate ventilation.

6.2. Environmental precautions

Should not be released into the environment. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

1,2-Propanediol Revision Date 22-Mar-2024

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Ensure adequate ventilation. Wear personal protective equipment/face protection.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame.

Technical Rules for Hazardous Substances (TRGS) 510 Storage Class (LGK) (Germany)

Storage Class/LGK 10

Switzerland - Storage of hazardous substances

Storage class - SC 10/12 https://www.kvu.ch/de/themen/stoffe-und-produkte https://www.kvu.ch/fr/themes/substances-et-produits

https://www.kvu.ch/it/temi/sostanze-e-prodotti

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

List source(s): **UK** - EH40/2005 Work Exposure Limits, Forth edition. Published 2020. **IRE** - 2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001. Published by the Health and Safety Authority.

Component	European Union	The United Kingdom	France	Belgium	Spain
1,2-Propanediol		STEL: 450 ppm 15 min			
•		STEL: 1422 mg/m ³ 15			
		min			
		STEL: 30 mg/m ³ 15 min			
		TWA: 150 ppm 8 hr			
		TWA: 474 mg/m ³ 8 hr			
		TWA: 10 mg/m ³ 8 hr			

Component	Austria	Denmark	Switzerland	Poland	Norway
1,2-Propanediol				TWA: 100 mg/m ³ 8	TWA: 25 ppm 8 timer
				godzinach	TWA: 79 mg/m ³ 8 timer
				_	STEL: 37.5 ppm 15
					minutter. value
					calculated
					STEL: 118.5 mg/m ³ 15
					minutter. value
					calculated

Component	Bulgaria	Croatia	Ireland	Cyprus	Czech Republic
1,2-Propanediol		TWA-GVI: 150 ppm 8	TWA: 10 mg/m ³ 8 hr.		
		satima.	particulates		
		TWA-GVI: 474 mg/m ³ 8	TWA: 150 ppm 8 hr.		
		satima. total vapor and	total vapour and		
		particles	particulates		

1,2-Propanediol

TWA-GVI:	: 10 mg/m ³ 8 TWA: 470 mg/m	1 ³ 8 hr.
satima.	particles total vapour a	and
	particulates	s
	STEL: 1410 mg/	/m³ 15
	min	
	STEL: 30 mg/m ³	15 min
	STEL: 450 ppm	15 min

Component	Latvia	Lithuania	Luxembourg	Malta	Romania
1,2-Propanediol	TWA: 7 mg/m ³	TWA: 7 mg/m ³ IPRD			

Component	Russia	Slovak Republic	Slovenia	Sweden	Turkey
1,2-Propanediol	MAC: 7 mg/m ³				

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

See table for values

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
1,2-Propanediol 57-55-6 (<=100)			DNEL = 10mg/m ³	DNEL = 168mg/m ³

Predicted No Effect Concentration (PNEC)

See values below.

Component	Fresh water	Fresh water	Water Intermittent	Microorganisms in	Soil (Agriculture)
		sediment		sewage treatment	
1,2-Propanediol	PNEC = 260mg/L	PNEC = 572mg/kg	PNEC = 183mg/L	PNEC = 20000mg/L	PNEC = 50mg/kg
57-55-6 (<=100)		sediment dw			soil dw

Component	Marine water	Marine water sediment	Marine water Intermittent	Food chain	Air
1,2-Propanediol	PNEC = 26mg/L	PNEC = 57.2mg/kg			
57-55-6 (<=100)		sediment dw			

8.2. Exposure controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye Protection Wear safety glasses with side shields (or goggles) (European standard - EN 166)

Revision Date 22-Mar-2024

Revision Date 22-Mar-2024 1,2-Propanediol

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Nitrile rubber	> 480 minutes	0.28 mm	Level 6 EN 374	As tested under EN374-3 Determination of
Neoprene gloves	> 480 minutes	0.38 mm		Resistance to Permeation by Chemicals
Viton (R)	> 480 minutes	0.3 mm		

Skin and body protection Long sleeved clothing.

Inspect gloves before use, observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, gloves with care avoiding skin contamination.

When workers are facing concentrations above the exposure limit they must use **Respiratory Protection**

appropriate certified respirators.

Large scale/emergency use Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits

are exceeded or if irritation or other symptoms are experienced

Recommended Filter type: Particle filter

Maintain adequate ventilation Small scale/Laboratory use

Environmental exposure controls No information available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State Viscous liquid Liquid

Clear Colourless **Appearance**

Odor Odorless

Odor Threshold No data available Melting Point/Range -60 °C / -76 °F **Softening Point** No data available 187 °C / 368.6 °F **Boiling Point/Range** Flammability (liquid) No data available

Flammability (solid,gas) Not applicable Liquid

Explosion Limits Lower 2.5 vol %

Upper 12.6 vol %

99 °C / 210.2 °F **Flash Point** Method - No information available

Autoignition Temperature 400 °C / 752 °F No data available **Decomposition Temperature**

6.5-7.5 pН 100g/l aq. sol

Viscosity 45 mPa.s at 20 °C Water Solubility Completely soluble

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Component log Pow 1,2-Propanediol -0.9

Vapor Pressure 0.13 mbar @ 20 °C

Density / Specific Gravity 1.03 - 1.04

Bulk Density Not applicable Liquid **Vapor Density** 2.62 (Air = 1.0)

Particle characteristics Not applicable (liquid)

9.2. Other information

1,2-Propanediol Revision Date 22-Mar-2024

Molecular Formula C3 H8 O2 Molecular Weight 76.10

Evaporation Rate No information available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Hygroscopic.

10.3. Possibility of hazardous reactions

Hazardous Polymerization Hazardous ReactionsNo information available.
No information available.

10.4. Conditions to avoid

Incompatible products. Excess heat. Exposure to moist air or water.

10.5. Incompatible materials

Strong oxidizing agents. Acids.

10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO2).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Product Information

(a) acute toxicity;

OralBased on available data, the classification criteria are not metDermalBased on available data, the classification criteria are not metInhalationBased on available data, the classification criteria are not met

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
1,2-Propanediol	LD50 = 20 g/kg (Rat)	LD50 = 20800 mg/kg (Rabbit)	-

(b) skin corrosion/irritation; Based on available data, the classification criteria are not met

(c) serious eye damage/irritation; Based on available data, the classification criteria are not met

(d) respiratory or skin sensitization;

RespiratorySkin
Based on available data, the classification criteria are not met
Based on available data, the classification criteria are not met

(e) germ cell mutagenicity; Based on available data, the classification criteria are not met

(f) carcinogenicity; Based on available data, the classification criteria are not met

1,2-Propanediol Revision Date 22-Mar-2024

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; Based on available data, the classification criteria are not met

(h) STOT-single exposure; Based on available data, the classification criteria are not met

(i) STOT-repeated exposure; Based on available data, the classification criteria are not met

Target Organs None known.

(j) aspiration hazard; Based on available data, the classification criteria are not met

Symptoms / effects,both acute and No information available.

delayed

11.2. Information on other hazards

Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any

known or suspected endocrine disruptors.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity
Ecotoxicity effects

Freshwater Fish Water Flea Freshwater Algae Component 1,2-Propanediol LC50: = 51600 mg/L, 96h static EC50: > 1000 mg/L, 48h Static EC50: = 19000 mg/L, 96h(Pseudokirchneriella subcapitata) (Oncorhynchus mykiss) (Daphnia magna) LC50: 41 - 47 mL/L, 96h static (Oncorhynchus mykiss) LC50: = 51400 mg/L, 96h static (Pimephales promelas) LC50: = 710 mg/L. 96h (Pimephales promelas)

Component	Microtox	M-Factor
1,2-Propanediol	= 710 mg/L EC50 Photobacterium phosphoreum 30 min	

12.2. Persistence and degradability

Persistence Miscible with water, Persistence is unlikely, based on information available.

12.3. Bioaccumulative potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)	
1,2-Propanediol	-0.9	<1 dimensionless	

12.4. Mobility in soil The product is water soluble, and may spread in water systems. Will likely be mobile in the

environment due to its water solubility. Highly mobile in soils

1,2-Propanediol Revision Date 22-Mar-2024

12.5. Results of PBT and vPvB

assessment

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent

and very bioaccumulative (vPvB).

12.6. Endocrine disrupting

properties

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effects

Persistent Organic Pollutant Ozone Depletion Potential This product does not contain any known or suspected substance This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues/Unused

Products

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Consult local, regional, and national hazardous waste regulations to

ensure complete and accurate classification.

Contaminated Packaging Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use

empty containers.

European Waste Catalogue (EWC) According to the European Waste Catalog, Waste Codes are not product specific, but

application specific.

Other Information Waste codes should be assigned by the user based on the application for which the product

was used.

Switzerland - Waste Ordinance Disposal should be in accordance with applicable regional, national and local laws and

regulations. Ordinance on the Avoidance and the Disposal of Waste (Waste Ordinance,

ADWO) SR 814.600

https://www.fedlex.admin.ch/eli/cc/2015/891/en

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO Not regulated

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

ADR Not regulated

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

IATA Not regulated

14.1. UN number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

1,2-Propanediol Revision Date 22-Mar-2024

14.5. Environmental hazardsNo hazards identified

14.6. Special precautions for user No special precautions required.

14.7. Maritime transport in bulk according to IMO instruments

Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

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

Χ

International Inventories

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
1,2-Propanediol	57-55-6	200-338-0	-	-	X	X	KE-29267	X	X
Component	CAS No	TSCA		nventory ation - Inactive	DSL	NDSL	AICS	NZIoC	PICCS

Legend: X - Listed '-' - Not Listed

1,2-Propanediol

KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

ACTIVE

Authorisation/Restrictions according to EU REACH

57-55-6

Not applicable

Χ

Χ

Χ

Component		REACH (1907/2006) - Annex XIV - Substances Subject to Authorization		REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
1,2-Propanediol	57-55-6	-	-	-

Seveso III Directive (2012/18/EC)

Component	CAS No	Seveso III Directive (2012/18/EC) - Seveso III Directive (2012/1		
		Qualifying Quantities for Major Accident	Qualifying Quantities for Safety Repo	
		Notification	Requirements	
1,2-Propanediol	57-55-6	Not applicable	Not applicable	

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)? Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

National Regulations

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

WGK Classification See table for values

Revision Date 22-Mar-2024 1,2-Propanediol

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
1,2-Propanediol	WGK1	

Component France - INRS (Tables of occupational diseases)		
1,2-Propanediol Tableaux des maladies professionnelles (TMP) - RG 84		Tableaux des maladies professionnelles (TMP) - RG 84

Swiss Regulations

Article 4 para. 4 of the Ordinance on the protection of young people in the workplace (SR 822.115) and Article 1 lit. f of the EAER regulation on hazardous work and young people (SR 822.115.2).

Take note on Article 13 Maternity Ordinance (SR 822.111.52) with regards expectant and nursing mothers.

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

Legend

CAS - Chemical Abstracts Service TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical DSL/NDSL - Canadian Domestic Substances List/Non-Domestic

Substances/EU List of Notified Chemical Substances Substances List

PICCS - Philippines Inventory of Chemicals and Chemical Substances **ENCS** - Japanese Existing and New Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances AICS - Australian Inventory of Chemical Substances **KECL** - Korean Existing and Evaluated Chemical Substances NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit TWA - Time Weighted Average

ACGIH - American Conference of Governmental Industrial Hygienists IARC - International Agency for Research on Cancer

DNEL - Derived No Effect Level Predicted No Effect Concentration (PNEC)

RPE - Respiratory Protective Equipment LD50 - Lethal Dose 50%

LC50 - Lethal Concentration 50% EC50 - Effective Concentration 50% NOEC - No Observed Effect Concentration POW - Partition coefficient Octanol:Water PBT - Persistent, Bioaccumulative, Toxic vPvB - very Persistent, very Bioaccumulative

ICAO/IATA - International Civil Aviation Organization/International Air ADR - European Agreement Concerning the International Carriage of

Dangerous Goods by Road Transport Association

IMO/IMDG - International Maritime Organization/International Maritime MARPOL - International Convention for the Prevention of Pollution from Ships

Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development ATE - Acute Toxicity Estimate VOC - (volatile organic compound)

BCF - Bioconcentration factor

Key literature references and sources for data

https://echa.europa.eu/information-on-chemicals

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Prepared By Health, Safety and Environmental Department

Creation Date 19-Nov-2009 **Revision Date** 22-Mar-2024

Revision Summary New emergency telephone response service provider.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006. COMMISSION REGULATION (EU) 2020/878 amending Annex II to Regulation (EC) No

Revision Date 22-Mar-2024

1907/2006

For Switzerland - Compiled in accordance with the technical provisions referred to in Annex 2, Number 3, ChemO (SR 813.11 - Ordinance on Protection against Dangerous Substances and Preparations).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet