

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

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

Perihal Produk: **1,3-DIKLORO-2-PROPANOL, 99%**  
 Product Description: **1,3-Dichloro-2-propanol**  
 Cat No. : 180180000; 180180010; 180180250; 180182500  
 Synonyms Glycerol chlorohydrin  
 CAS No 96-23-1  
 Molecular Formula C3 H6 Cl2 O

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

Recommended Use Laboratory chemicals.  
 Uses advised against No Information available

**Company**

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 CHEMTREC Malaysia **1-800-815-308** (Malay)  
 CHEMTREC Malaysia (Kuala Lumpur) **+(60)-327884561** (Malay)

**SECTION 2: HAZARDS IDENTIFICATION**
**Classification of the substance or mixture**

Acute oral toxicity	Category 3 (H301)
Acute dermal toxicity	Category 4 (H312)
Carcinogenicity	Category 1B (H350)

**Label Elements**

**Signal Word**
**Danger**
**Hazard Statements**

H301 - Toxic if swallowed

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H312 - Harmful in contact with skin  
H350 - May cause cancer

## Precautionary Statements

### Prevention

P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P280 - Wear protective gloves/protective clothing/eye protection/face protection

### Response

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P312 - Call a POISON CENTER or doctor if you feel unwell  
P330 - Rinse mouth  
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish  
P362 + P364 - Take off contaminated clothing and wash it before reuse

### Storage

P403 + P235 - Store in a well-ventilated place. Keep cool  
P405 - Store locked up

### Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

## Other Hazards

Combustible liquid

Toxic to terrestrial vertebrates

This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
1,3-Dichloro-2-propanol	96-23-1	>95

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

#### General Advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

#### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

#### Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

#### Ingestion

Do NOT induce vomiting. Call a physician or poison control center immediately.

#### Inhalation

Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

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**Self-Protection of the First Aider** Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

**Most important symptoms and effects, both acute and delayed**

Difficulty in breathing.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

**Extinguishing media**

**Suitable Extinguishing Media**

Water spray, carbon dioxide (CO<sub>2</sub>), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

**Extinguishing media which must not be used for safety reasons**

No information available.

**Special hazards arising from the substance or mixture**

Combustible material. Flammable. Vapors may form explosive mixtures with air. Containers may explode when heated.

**Hazardous Combustion Products**

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Phosgene, Hydrogen chloride gas.

**Advice for fire-fighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment and Emergency Procedures**

Ensure adequate ventilation. Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges.

**Environmental precautions**

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

**Methods and Material for Containment and Cleaning Up**

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Remove all sources of ignition.

**Reference to Other Sections**

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

**Precautions for Safe Handling**

Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/face protection. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from open flames, hot surfaces and sources of ignition.

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## Conditions for Safe Storage, Including any Incompatibilities

Keep away from heat, sparks and flame. Keep containers tightly closed in a dry, cool and well-ventilated place. To maintain product quality: Keep under nitrogen.

## Specific End Uses

Use in laboratories.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Component	European Union	The United Kingdom	Germany
1,3-Dichloro-2-propanol			Haut

### Exposure Controls

#### **Engineering Measures**

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

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Personal protective equipment

#### **Eye Protection**

Goggles

#### **Hand Protection**

Protective gloves

#### **Skin and body protection**

Long sleeved clothing

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.

(Refer to manufacturer/supplier for information)

Ensure 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.

Remove gloves with care avoiding skin contamination.

#### **Respiratory Protection**

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

#### **Recommended Filter type:**

Organic gases and vapours filter Type A Brown conforming to EN14387

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

When RPE is used a face piece Fit Test should be conducted

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

### Environmental exposure controls

No information available

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

#### **Appearance**

Yellow

#### **Physical State**

Liquid

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<b>Odor</b>	Ether	
<b>Odor Threshold</b>	No data available	
<b>pH</b>	No information available	1000 g/l water
<b>Melting Point/Range</b>	-4 °C / 24.8 °F	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	172 - 176 °C / 341.6 - 348.8 °F	@ 760 mmHg
<b>Flash Point</b>	74 °C / 165.2 °F	<b>Method -</b> No information available
<b>Evaporation Rate</b>	No data available	
<b>Flammability (solid,gas)</b>	Not applicable	Liquid
<b>Explosion Limits</b>	No data available	
<b>Vapor Pressure</b>	0.7 mbar @ 20 °C	
<b>Vapor Density</b>	4.45 (Air = 1.0)	(Air = 1.0)
<b>Specific Gravity / Density</b>	1.351	
<b>Bulk Density</b>	Not applicable	Liquid
<b>Water Solubility</b>	13 g/l water (20°C)	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Component</b>	<b>log Pow</b>	
1,3-Dichloro-2-propanol	0.8	
<b>Autoignition Temperature</b>	No data available	
<b>Decomposition Temperature</b>	No data available	
<b>Viscosity</b>	No data available	
<b>Explosive Properties</b>		explosive air/vapour mixtures possible
<b>Oxidizing Properties</b>	No information available	
<b>Molecular Formula</b>	C3 H6 Cl2 O	
<b>Molecular Weight</b>	128.99	

## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

None known, based on information available.

### Chemical Stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing.

### Conditions to Avoid

Incompatible products. Keep away from open flames, hot surfaces and sources of ignition.

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## Incompatible Materials

Strong oxidizing agents. Strong acids. Strong reducing agents. Acid anhydrides. Acid chlorides. Bases.

## Hazardous Decomposition Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Phosgene. Hydrogen chloride gas.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects

#### Product Information

##### (a) acute toxicity;

Oral

Category 3

Dermal

Category 4

Inhalation

Based on available data, the classification criteria are not met

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
1,3-Dichloro-2-propanol	LD50 = 110 mg/kg (Rat)	LD50 = 800 mg/kg ( Rabbit )	LC50 = 125 ppm(4h) (Rat)

##### (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;

Respiratory

Based on available data, the classification criteria are not met

Skin

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;

Category 1B

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC
1,3-Dichloro-2-propanol	Carc Cat. 1B		Cat. 2	Group 2B

##### (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

#### Other Adverse Effects

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**Symptoms / effects, both acute and delayed** No information available.

**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

**Ecotoxicity effects** Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
1,3-Dichloro-2-propanol	LC50: 680 mg/L/24h (Carassius Auratus)	EC50: 983 mg/L/24h		EC50 = 1700 mg/L 15 min EC50 = 1900 mg/L 5 min

**Persistence and degradability** Readily biodegradable  
**Persistence** Soluble in water, Persistence is unlikely, based on information available.

**Bioaccumulative potential** Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
1,3-Dichloro-2-propanol	0.8	No data available

**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.

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors

**Other adverse effects** No information available

## SECTION 13: DISPOSAL CONSIDERATIONS

### Waste treatment methods

**Waste from Residues/Unused Products** Waste is classified as hazardous Dispose of in accordance with the European Directives on waste and hazardous waste Dispose of in accordance with local regulations

**Contaminated Packaging** Dispose of this container to hazardous or special waste collection point.

**Other Information** Waste codes should be assigned by the user based on the application for which the product was used Do not empty into drains

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

UN-No	UN2750
Hazard Class	6.1
Packing Group	II
Proper Shipping Name	1,3-DICHLOROPROPANOL-2

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## Road and Rail Transport

UN-No UN2750  
Hazard Class 6.1  
Packing Group II  
Proper Shipping Name 1,3-DICHLOROPROPANOL-2

## IATA

UN-No UN2750  
Hazard Class 6.1  
Packing Group II  
Proper Shipping Name 1,3-DICHLOROPROPANOL-2

Special Precautions for User No special precautions required

## SECTION 15: REGULATORY INFORMATION

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

International Inventories X = listed

Component	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	IECSC	AICS	KECL
1,3-Dichloro-2-propanol	202-491-9	X	X	X	X	X	X	X	KE-10203

## National Regulations

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

## SECTION 16: OTHER INFORMATION

### Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

POW - Partition coefficient Octanol:Water

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate



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BCF - Bioconcentration factor

VOC - (Volatile Organic Compound)

## Key literature references and sources for data

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

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

Revision Date

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Revision Summary

Not applicable.

**In accordance with local and national regulations: Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013**

## 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**