

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**

Perihalan Produk: **(S)-(+)-2,2-Dimethyl-1,3-dioxolane-4-methanol**  
Product Description: **(S)-(+)-2,2-Dimethyl-1,3-dioxolane-4-methanol**  
Cat No. : 218070000; 218070010; 218070050  
Synonyms (+)-2,3-O-Isopropylidene-sn-glycerol; (S)-(+)-Solketal  
CAS No 22323-82-6  
Molecular Formula C6 H12 O3

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

Recommended Use Laboratory chemicals.  
Uses advised against No Information available

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CHEMTREC Malaysia (Kuala Lumpur) **+(60)-327884561** (Malay)

**SECTION 2: HAZARDS IDENTIFICATION**

**Classification of the substance or mixture**

**Label Elements**

**Hazard Statements**

**Precautionary Statements**  
**Prevention**

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P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

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

## Response

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

## Storage

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

## Disposal

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

## Other Hazards

Combustible liquid

This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
(S)-2,2-Dimethyl-1,3-dioxolane-4-methanol	22323-82-6	<=100

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

#### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

#### Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

#### Ingestion

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. If possible drink milk afterwards.

#### Inhalation

Remove from exposure, lie down. Remove to fresh air.

#### Self-Protection of the First Aider

No special precautions required.

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

Difficulty in breathing. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

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

#### Notes to Physician

Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

### Extinguishing media

#### Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. 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. Containers may explode when heated.

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## **Hazardous Combustion Products**

Thermal decomposition can lead to release of irritating gases and vapors, Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>).

## **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**

Remove all sources of ignition. Take precautionary measures against static discharges.

### **Environmental precautions**

See Section 12 for additional Ecological Information.

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

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Sweep up and shovel into suitable containers for disposal. 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**

Avoid contact with skin and eyes. Avoid contact with skin and clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Avoid breathing vapors or mists. Do not ingest. If swallowed then seek immediate medical assistance. Wash thoroughly after handling. Keep away from open flames, hot surfaces and sources of ignition.

### **Conditions for Safe Storage, Including any Incompatibilities**

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

### **Specific End Uses**

Use in laboratories.

## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Control Parameters**

### **Exposure Controls**

#### **Engineering Measures**

None under normal use conditions. Ensure adequate ventilation, especially in confined areas.

### **Personal protective equipment**

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<b>Eye Protection</b>	Wear safety glasses with side shields (or goggles)
<b>Hand Protection</b>	Protective gloves
<b>Skin and body protection</b>	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.

<b>Respiratory Protection</b>	No protective equipment is needed under normal use conditions
<b>Recommended Filter type:</b>	Particle filter

**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

<b>Appearance</b>	Light yellow	
<b>Physical State</b>	Liquid	
<b>Odor</b>	Odorless	
<b>Odor Threshold</b>	No data available	
<b>pH</b>	No information available	
<b>Melting Point/Range</b>	No data available	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	82 - 83 °C / 179.6 - 181.4 °F	@ 14 mmHg
<b>Flash Point</b>	80 °C / 176 °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>	No data available	
<b>Vapor Density</b>	No data available	(Air = 1.0)
<b>Specific Gravity / Density</b>	1.070	
<b>Bulk Density</b>	Not applicable	Liquid
<b>Water Solubility</b>	Miscible	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Autoignition Temperature</b>	No data available	
<b>Decomposition Temperature</b>	No data available	
<b>Viscosity</b>	No data available	

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<b>Explosive Properties</b>		explosive air/vapour mixtures possible
<b>Oxidizing Properties</b>	No information available	

<b>Molecular Formula</b>	C6 H12 O3
<b>Molecular Weight</b>	132.16

## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

None known, based on information available.

### Chemical Stability

Stable under normal conditions.

### Possibility of Hazardous Reactions

<b>Hazardous Polymerization</b>	No information available.
<b>Hazardous Reactions</b>	No information available.

### Conditions to Avoid

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

### Incompatible Materials

Acids. Strong oxidizing agents. Oxidizing agent.

### Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors. Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects

<b>Product Information</b>	No acute toxicity information is available for this product
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<b>(a) acute toxicity;</b>	
<b>Oral</b>	No data available
<b>Dermal</b>	No data available
<b>Inhalation</b>	No data available

<b>(b) skin corrosion/irritation;</b>	No data available
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<b>(c) serious eye damage/irritation;</b>	No data available
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<b>(d) respiratory or skin sensitization;</b>	
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<b>Respiratory</b>	No data available
<b>Skin</b>	No data available
<b>(e) germ cell mutagenicity;</b>	No data available
<b>(f) carcinogenicity;</b>	No data available There are no known carcinogenic chemicals in this product
<b>(g) reproductive toxicity;</b>	No data available
<b>(h) STOT-single exposure;</b>	No data available
<b>(i) STOT-repeated exposure;</b>	No data available
<b>Target Organs</b>	No information available.
<b>(j) aspiration hazard;</b>	No data available
<b>Other Adverse Effects</b>	The toxicological properties have not been fully investigated.
<b>Symptoms / effects, both acute and delayed</b>	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
<b>Endocrine Disrupting Properties</b>	Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

## SECTION 12: ECOLOGICAL INFORMATION

### Ecotoxicity effects

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### Persistence and degradability

#### **Persistence**

Persistence is unlikely, based on information available.

### Bioaccumulative potential

Bioaccumulation is unlikely

### Mobility in soil

The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces. Will likely be mobile in the environment due to its volatility. Disperses rapidly in air.

### 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

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**Waste from Residues/Unused Products**

Dispose of in accordance with local regulations

**Contaminated Packaging**

Empty containers should be taken to an approved waste handling site for recycling or disposal

## SECTION 14: TRANSPORT INFORMATION

**IMDG/IMO**

Not regulated

**Road and Rail Transport**

Not regulated

**IATA**

Not regulated

**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
(S)-2,2-Dimethyl-1,3-dioxolane-4-methanol	244-910-8	-	-	X	X	X	-	-	-

**National Regulations**

**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 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

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

**DSL/NDSL** - 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

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**POW** - Partition coefficient Octanol:Water

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

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**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

**BCF** - Bioconcentration factor

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

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**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

22-Mar-2025

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

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**End of Safety Data Sheet**