

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

### Product Identifier

Product Description: **1-Chloro-2-methyl-2-propanol**  
 Cat No. : **A18978**  
 CAS No 558-42-9  
 Molecular Formula C4 H9 Cl O

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

Recommended Use Laboratory chemicals.  
 Uses advised against No Information available

### Details of the supplier of the safety data sheet

#### **Importer**

Fisher Scientific Korea  
 D5,D6, Incheon Airport Logistics Complex  
 150, Gonghangdong-Ro 296 Beon-Gil  
 Jung-Gu, Incheon  
 Tel: +82-1661-9555  
 Fax: +82-2-2023-0603

#### **Supplier**

Thermo Fisher Scientific Chemicals, Inc.  
 30 Bond Street  
 Ward Hill, MA 01835-8099

#### **E-mail address**

Chem.KR@thermofisher.com

### Emergency Telephone Number

Emergency telephone: Medical: +(82) 070-7686-0086 or + 1-703-741-5970  
 CHEMTREC: 080 822 1374 (Local), CHEMTREC: 1-800-424-9300 or + 1-703-527-3887  
 Korea: 00-308-13-2549 (24 hours a day, 7 days a week)

## SECTION 2: HAZARDS IDENTIFICATION

### Classification of the substance or mixture

#### **Physical hazards**

Flammable liquids

Category 3

#### **Health hazards**

Skin Corrosion/Irritation  
 Serious Eye Damage/Eye Irritation  
 Specific target organ toxicity - (single exposure)

Category 2  
 Category 2  
 Category 3

#### **Environmental hazards**

Based on available data, the classification criteria are not met

### Label Elements

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## Signal Word

## Warning

### Hazard Statements

H226 - Flammable liquid and vapor  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H335 - May cause respiratory irritation

### Precautionary Statements

#### Prevention

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P233 - Keep container tightly closed  
P240 - Ground and bond container and receiving equipment  
P241 - Use explosion-proof electrical/ ventilating/ lighting equipment  
P242 - Use non-sparking tools  
P243 - Take action to prevent static discharges  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P264 - Wash hands and face thoroughly after handling  
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
P271 - Use only outdoors or in a well-ventilated area

#### Response

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower  
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P321 - Specific treatment (see supplemental first aid instructions on this label)  
P332 + P313 - If skin irritation occurs: Get medical advice/attention  
P362 + P364 - Take off contaminated clothing and wash it before reuse  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P337 + P313 - If eye irritation persists: Get medical advice/attention  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P312 - Call a POISON CENTER or doctor if you feel unwell

#### Storage

P403 + P235 - Store in a well-ventilated place. Keep cool  
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed  
P405 - Store locked up

#### Disposal

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

### Other Hazards

This product does not contain any known or suspected endocrine disruptors

### NFPA

Health  
2

Flammability  
2

Instability  
0

Physical hazards  
N/A

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

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Component	Common Name	CAS No	Index No	Weight %
1-Chloro-2-methylpropan-2-ol	No information available	558-42-9	Not listed	99 - 100

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

#### **Eye Contact**

Immediate medical attention is required. 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. Get medical attention. Take off contaminated clothing and shoes immediately.

#### **Ingestion**

Never give anything by mouth to an unconscious person. Drink plenty of water. Call a physician immediately. If possible drink milk afterwards.

#### **Inhalation**

Remove from exposure, lie down. Remove to fresh air. If not breathing, give artificial respiration. Immediate medical attention is required.

#### **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. 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. Symptoms may be delayed.

## 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

Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

### **Hazardous Combustion Products**

Thermal decomposition can lead to release of irritating gases and vapors.

### Advice for fire-fighters

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

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## 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. Use spark-proof tools and explosion-proof equipment.

### Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### Precautions for Safe Handling

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Take precautionary measures against static discharges.

### Conditions for Safe Storage, Including any Incompatibilities

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed in a dry 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

Component	CAS No	Korea	ACGIH TLV	OSHA PEL
1-Chloro-2-methylpropan-2-ol	558-42-9	Not listed	Not listed	Not listed

Component	CAS No	European Union	The United Kingdom	Germany
1-Chloro-2-methylpropan-2-ol	558-42-9	Not listed	Not listed	Not listed

### ACGIH - Biological Exposure Indices

Component	CAS No	ACGIH - Biological Exposure Indices
1-Chloro-2-methylpropan-2-ol	558-42-9	Not listed

### Exposure Controls

#### Engineering Measures

Ventilation systems. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting equipment.

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

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## Personal protective equipment

**Eye Protection** Goggles  
**Hand Protection** Protective gloves  
**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure

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.

**Personal protective equipment** Use only those certified by the Korea Occupational Safety and Health Administration.  
**Respiratory Protection** No protective equipment is needed under normal use conditions

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 (Physical State, Color, etc.)** Light yellow Liquid

**Odor** Alcohol-like  
**Odor Threshold** No data available  
**pH** No information available

**Melting Point/Range** No data available  
**Softening Point** No data available  
**Boiling Point/Range** 124 - 128 °C / 255.2 - 262.4 °F  
**Flash Point** 38 °C / 100.4 °F **Method -** No information available

**Evaporation Rate** No data available  
**Flammability (solid,gas)** Not applicable Liquid  
**Explosion Limits** No data available

**Vapor Pressure** No data available  
**Vapor Density** No data available (Air = 1.0)  
**Specific Gravity / Density** 1.050  
**Bulk Density** Not applicable Liquid  
**Water Solubility** Insoluble  
**Solubility in other solvents** No information available

### Partition Coefficient (n-octanol/water)

Component	CAS No	log Pow
1-Chloro-2-methylpropan-2-ol	558-42-9	No data available

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Autoignition Temperature No data available  
Decomposition Temperature No data available  
Viscosity No data available  
Explosive Properties explosive air/vapour mixtures possible  
Oxidizing Properties No information available

Molecular Formula C<sub>4</sub> H<sub>9</sub> Cl O  
Molecular Weight 108.57

## SECTION 10: STABILITY AND REACTIVITY

Reactivity None known, based on information available

Chemical Stability Stable under normal conditions.

### Possibility of Hazardous Reactions

Hazardous Polymerization No information available.  
Hazardous Reactions No information available.

Conditions to Avoid Keep away from open flames, hot surfaces and sources of ignition.

Incompatible Materials Oxidizing agent.

### Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors.

## SECTION 11: TOXICOLOGICAL INFORMATION

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

**Product Information** No acute toxicity information is available for this product

#### **Information on expected route of exposure**

Inhalation Avoid breathing vapors or mists.  
Ingestion May be harmful if swallowed.  
Eyes Avoid contact with eyes. Irritating to eyes. Vapor may cause irritation.  
Skin Avoid contact with skin. May cause irritation. Prolonged skin contact may defat the skin and produce dermatitis.

#### **Information on Health Hazards**

##### **(a) acute toxicity;**

Oral No data available  
Dermal No data available  
Inhalation No data available

Component	CAS No	LD50 Oral	LD50 Dermal	LC50 Inhalation
1-Chloro-2-methylpropan-2-ol	558-42-9	No data available	No data available	No data available

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(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 2

(d) respiratory or skin sensitization;  
Respiratory No data available  
Skin No data available

Component	CAS No	Test method	Test species	Study result
1-Chloro-2-methylpropan-2-ol	558-42-9	No data available	No data available	No data available

(e) germ cell mutagenicity; No data available

Component	CAS No	Test method	Test species	Study result
1-Chloro-2-methylpropan-2-ol	558-42-9	No data available	No data available	No data available

(f) carcinogenicity; No data available

Component	CAS No	Test method	Test species / Duration	Study result
1-Chloro-2-methylpropan-2-ol	558-42-9	No data available	No data available	No data available

There are no known carcinogenic chemicals in this product

Component	CAS No	IARC	NTP	ACGIH	OSHA	UK
1-Chloro-2-methylpropan-2-ol	558-42-9	Not listed	Not listed	Not listed	Not listed	Not listed

(g) reproductive toxicity; No data available

Component	CAS No	Test method	Test species / Duration	Study result
1-Chloro-2-methylpropan-2-ol	558-42-9	No data available	No data available	No data available

(h) STOT-single exposure;  
Results / Target organs Category 3  
Respiratory system.

(i) STOT-repeated exposure; No data available  
Target Organs No information available.

(j) aspiration hazard; No data available

## Other Adverse Effects

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

Component	CAS No	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
1-Chloro-2-methylpropan-2-ol	558-42-9	Not applicable	Not applicable	Not applicable

## SECTION 12: ECOLOGICAL INFORMATION

### Ecotoxicity effects

Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

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Component	CAS No	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
1-Chloro-2-methylpropan-2-ol	558-42-9	No data available	No data available	No data available	No data available

## Persistence and degradability

### **Persistence**

Insoluble in water, Persistence is unlikely, based on information available.

## Bioaccumulative potential

May have some potential to bioaccumulate

## Mobility in soil

Spillage unlikely to penetrate soil The product is insoluble and sinks in water The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces Is not likely mobile in the environment due its low water solubility. Will likely be mobile in the environment due to its volatility.

## Ozone Depletion Potential

Component	CAS No	Ozone Depletion Potential
1-Chloro-2-methylpropan-2-ol	558-42-9	Not listed

## Other adverse effects

No information available

## SECTION 13: DISPOSAL CONSIDERATIONS

### Waste treatment methods

#### **Waste from Residues/Unused Products**

Waste is classified as hazardous. Dispose in accordance with the Wastes Control Act (폐기물관리법).

#### **Contaminated Packaging**

Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

#### **Other Information**

Waste codes should be assigned by the user based on the application for which the product was used. Do not flush to sewer. Can be landfilled or incinerated, when in compliance with local regulations.

## SECTION 14: TRANSPORT INFORMATION

### Road and Rail Transport

UN-No	UN1993
Proper Shipping Name	FLAMMABLE LIQUID, N.O.S.
Technical Shipping Name	1-Chloro-2-methyl-2-propanol
Hazard Class	3
Packing Group	III

### IATA

UN-No	UN1993
Proper Shipping Name	FLAMMABLE LIQUID, N.O.S.
Technical Shipping Name	1-Chloro-2-methyl-2-propanol
Hazard Class	3
Packing Group	III

### IMDG/IMO

UN-No	UN1993
Proper Shipping Name	FLAMMABLE LIQUID, N.O.S.
Technical Shipping Name	1-Chloro-2-methyl-2-propanol
Hazard Class	3
Packing Group	III
Marine Pollutant	No hazards identified



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Special Precautions for User No special precautions required

## SECTION 15: REGULATORY INFORMATION

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

Legend: X - Listed '-' - Not Listed

### International Inventories

Component	CAS No	KECL	TSCA	EINECS	IECSC	DSL	NDSL	PICCS	ENCS	ISHL	AICS
1-Chloro-2-methylpropan-2-ol	558-42-9	-	-	209-196-4	-	-	-	-	X	X	-

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
1-Chloro-2-methylpropan-2-ol	558-42-9	Not applicable	Not applicable	Not applicable	Not applicable

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential
1-Chloro-2-methylpropan-2-ol	558-42-9	Not applicable	Not applicable	Not applicable

### Korean National Regulations

Component	CAS No	Act on Registration and Evaluation of Chemical Substances (K-REACH)	Authorised Chemicals	Existing Substances Subject to Registration
1-Chloro-2-methylpropan-2-ol	558-42-9	Not applicable	Not applicable	Not applicable

Component	CAS No	Chemical Control Act - Toxic Chemicals	Chemical Control Act - Prohibited Chemicals	Chemical Control Act - Use Restricted Chemicals
1-Chloro-2-methylpropan-2-ol	558-42-9	Not applicable	Not applicable	Not applicable

Component	CAS No	Chemical Control Act - Accident Precaution Chemicals (% in mixtures)	Chemical Control Act - Accident Precaution Chemicals - Quantity limits Storage (% in mixtures)	Chemical Control Act - Accident Precaution Chemicals - Quantity limits Manufacture/Use (% in mixtures)
1-Chloro-2-methylpropan-2-ol	558-42-9	Not applicable	Not applicable	Not applicable

Component	CAS No	Waste Control Law	Ministry of Environment - CMR risk	Ministry of Environment - Critically Controlled Substance
1-Chloro-2-methylpropan-2-ol	558-42-9	Not applicable	Not applicable	Not applicable

Component	CAS No	ISHA - Harmful Agents Subject to Work Environment Monitoring	ISHA - Prohibited substances	ISHA - Substances requiring permission
1-Chloro-2-methylpropan-2-ol	558-42-9	Not applicable	Not applicable	Not applicable

Component	CAS No	ISHA - Substances subject to control	ISHA - Harmful Agents Requiring Health Examination	ISHA - Permissible Exposure Limits
1-Chloro-2-methylpropan-2-ol	558-42-9	Not applicable	Not applicable	Not applicable

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Component	CAS No	ISHA - Subject to Process Safety Reports (minimum quantity)	ISHA - Threshold Limit Values (TLVs) Chemicals	ISHA - Special management materials
1-Chloro-2-methylpropan-2-ol	558-42-9	Not applicable	Not applicable	Not applicable

**National Fire Association - Dangerous Substances** Minimum quantity requiring a permit

Component	CAS No	Class 1 - Oxidising solids	Class 2 - Flammable solid	Class 3 - Spontaneously Combustible Substances and Dangerous Substances When Wet	Class 4 - Flammable liquids	Class 5 - Self-reactive substances	Class 6 - Oxidising liquids
1-Chloro-2-methylpropan-2-ol	558-42-9	Not applicable	Not applicable	Not applicable	4. Group 2 Petroleum (Insoluble) 1000 L	Not applicable	Not applicable

## Control Parameters

Component	CAS No	Korea	ACGIH - Biological Exposure Indices
1-Chloro-2-methylpropan-2-ol	558-42-9	Not listed	Not listed

## US Management Information

OSHA - Occupational Safety and Health Administration

Not applicable

Component	CAS No	Specifically Regulated Chemicals	Highly Hazardous Chemicals
1-Chloro-2-methylpropan-2-ol	558-42-9	Not applicable	Not applicable

**CERCLA** Not applicable

Component	CAS No	CERCLA Extremely Hazardous Substances RQs	Hazardous Substances RQs	SARA 313 - Threshold Values %
1-Chloro-2-methylpropan-2-ol	558-42-9	Not applicable	Not applicable	Not applicable

## GHS Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

Warning.

H226 - Flammable liquid and vapor. H319 - Causes serious eye irritation. H315 - Causes skin irritation. H335 - May cause respiratory irritation.

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

## 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/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

**WEL** - Workplace Exposure Limit

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

**TWA** - Time Weighted Average

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

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**RPE** - Respiratory Protective Equipment  
**LC50** - Lethal Concentration 50%  
**POW** - Partition coefficient Octanol:Water

**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  
**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

## Training Advice

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

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Chemical incident response training.

Fire prevention and fighting, identifying hazards and risks, static electricity, explosive atmospheres posed by vapours and dusts.

<b>Prepared By</b>	Health, Safety and Environmental Department
<b>Creation Date</b>	15-Apr-2015
<b>Revision Date</b>	09-Jun-2024
<b>Revision Number</b>	6
<b>Revision Summary</b>	New emergency telephone response service provider.

## MOEL's Public Notice No. 2023-9 (Standards for Classification and Labeling of Chemical Substances and Safety Data Sheets)

### 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**