

**PROPYLENE OXIDE
CAS NO 75-56-9**

**MATERIAL SAFETY DATA SHEET
SDS/MSDS**

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : Propylene Oxide

CAS-No. : 75-56-9

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

Identified uses : Laboratory chemicals, Industrial & for professional use only.

1.3 Details of the supplier of the safety data sheet

Company : Central Drug House (P) Ltd
7/28 Vardaan House
New Delhi -110002
INDIA

Telephone : +91 11 49404040

Email : care@cdhfinechemical.com

1.4 Emergency telephone number

Emergency Phone # : +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 1), H224
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 3), H331
Acute toxicity, Dermal (Category 4), H312
Skin irritation (Category 2), H315
Eye irritation (Category 2), H319
Germ cell mutagenicity (Category 1B), H340
Carcinogenicity (Category 1B), H350
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

H224

Extremely flammable liquid and vapour.

H302 + H312	Harmful if swallowed or in contact with skin
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H340	May cause genetic defects.
H350	May cause cancer.
Precautionary statement(s)	
P201	Obtain special instructions before use.
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.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P370 + P378	In case of fire: Use dry powder or dry sand to extinguish.
P403 + P235	Store in a well-ventilated place. Keep cool.
Supplemental Hazard Statements	none
Restricted to professional users.	

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	:	(±)-Methyloxirane 1,2-Epoxypropane
Formula	:	C ₃ H ₆ O
Molecular weight	:	58.08 g/mol
CAS-No.	:	75-56-9
EC-No.	:	200-879-2
Index-No.	:	603-055-00-4

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
Methyloxirane	Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)	
CAS-No.	75-56-9	Flam. Liq. 1; Acute Tox. 4; <= 100 %
EC-No.	200-879-2	Acute Tox. 3; Acute Tox. 4;
Index-No.	603-055-00-4	Skin Irrit. 2; Eye Irrit. 2; Muta. 1B; Carc. 1B; STOT SE 3; H224, H302, H332, H331, H312, H315, H319, H340, H350, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Over time, pressure may increase causing containers to burst. Handle and open container with care. Heat sensitive. Cool to 0°C before opening.

Storage class (TRGS 510): Flammable liquids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engine protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|---|---|
| a) Appearance | Form: clear, liquid
Colour: colourless |
| b) Odour | ether-like |
| c) Odour Threshold | No data available |
| d) pH | No data available |
| e) Melting point/freezing point | Melting point/range: -112 °C - lit. |
| f) Initial boiling point and boiling range | 34 °C - lit. |
| g) Flash point | -37 °C - closed cup |
| h) Evaporation rate | No data available |
| i) Flammability (solid, gas) | No data available |
| j) Upper/lower flammability or explosive limits | Upper explosion limit: 38.8 %(V)
Lower explosion limit: 2.1 %(V) |
| k) Vapour pressure | 444.1 mmHg at 20 °C
1,521.5 mmHg at 55 °C |

l) Vapour density	2.01 - (Air = 1.0)
m) Relative density	0.83 g/mL at 25 °C
n) Water solubility	405 g/l at 20 °C - soluble
o) Partition coefficient: n-octanol/water	log Pow: 0.03
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	0.374 mm ² /s at 20 °C -
s) Explosive properties	No data available
t) Oxidizing properties	No data available

9.2 Other safety information

Relative vapour density 2.01 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Oxidizing agents, Copper, Strong acids, Strong bases, Peroxides, Bases, Amines

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 380 mg/kg(Methyloxirane)

Remarks: Behavioral:Excitement. Behavioral:Ataxia. Lungs, Thorax, or Respiration:Respiratory stimulation. LC50 Inhalation - Rat - 4 h - 9.95 mg/l(Methyloxirane)

(OECD Test Guideline 403)

LD50 Dermal - Rabbit - 950 mg/kg(Methyloxirane)

Skin corrosion/irritation Skin -

Rabbit(Methyloxirane) Result:

Severe skin irritation - 6 h

Serious eye damage/eye irritation

Eyes -

Rabbit(Methyloxirane)

Result: Severe eye irritation

Respiratory or skin sensitisation

Germ cell mutagenicity

Laboratory experiments have shown mutagenic effects.(Methyloxirane)

In vivo tests showed mutagenic effects(Methyloxirane)

Carcinogenicity

This product is or contains a component that has been reported to be proba EPA classification.(Methyloxirane)

Possible human carcinogen(Methyloxirane)

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Methyloxirane)

Reproductive toxicity

No toxicity to reproduction(Methyloxirane)

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.(Methyloxirane)

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available(Methyloxirane)

Additional Information

RTECS: TZ2975000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea(Methyloxirane)

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 52 mg/l - 96 h(Methyloxirane)

Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 350 mg/l - 48 h(Methyloxirane) (EPA-660/3-75-009)

Toxicity to algae EC50 - Pseudokirchneriella subcapitata - 240 mg/l - 96 h(Methyloxirane)

Toxicity to bacteria NOEC - Bacteria - 100 mg/l - 28 d(Methyloxirane)

12.2 Persistence and degradability

Biodegradability Result: 89 % - Readily biodegradable.

12.3 Bioaccumulative potential

Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.

12.4 Mobility in soil

No data available(Methyloxirane)

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Harmful to aquatic life.

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

