

# Safety data for epichlorohydrin

---

[Glossary](#) of terms on this data sheet.

The information on this web page is provided to help you to work safely, but it is intended to be an overview of hazards, not a replacement for a full Material Safety Data Sheet (MSDS). MSDS forms can be downloaded from the web sites of many chemical suppliers.

---

## General

Synonyms: 1-chloro-2,3-epoxypropane, 3-chloro-1,2-propylene oxide, chloromethyloxirane, chloromethylethylene oxide, dl-a-epichlorohydrin, chloropropylene oxide, epichlorhydrin, skekhg

Molecular formula:  $\text{ClCH}_2\text{C}_2\text{H}_3\text{O}$

CAS No: 106-89-8

EC No: 203-439-8

Annex I Index No: 603-026-00-6

## Physical data

Appearance: colourless liquid

Melting point: -26 C

Boiling point: 116 C

Vapour density: 3.2 (air = 1)

Vapour pressure: 12.5 mm Hg at 20 C

Density ( $\text{g cm}^{-3}$ ): 1.18

Flash point: 32 C (closed cup)

Explosion limits: 3.8 - 21 %

Autoignition temperature:

Water solubility: appreciable

## Stability

Unstable. Flammable - note wide explosion limits and low flash point. Vapours may flow along surfaces to source of ignition. Contact with strong oxidisers may lead to fire. Incompatible with strong acids, strong bases, strong oxidizing agents, metal salts,

amines, aluminium, chlorine and a variety of chlorine compounds, most common metals.

## Toxicology

Poison. Harmful if inhaled - may cause delayed lung damage. May be fatal if swallowed. Reported as causing cancer in laboratory animals; may act as a teratogen. Causes burns. May lead to CNS depression. Contact with eyes may cause permanent damage. Long-term exposure may lead to liver or kidney damage. Typical TLV/TWA 2 ppm. Typical STEL 5 ppm.

### Toxicity data

(The meaning of any abbreviations which appear in this section is given [here.](#))

ORL-RAT LD50 90 mg kg<sup>-1</sup>

SKN-RBT LD50 515 mg kg<sup>-1</sup>

IHL-RAT LC50 360 ppm/6h

IVN-RAT LD50 154 mg kg<sup>-1</sup>

### Risk phrases

(The meaning of any risk phrases which appear in this section is given [here.](#))

R10 R23 R24 R25 R34 R43 R45.

## Transport information

(The meaning of any UN hazard codes which appear in this section is given [here.](#))

UN No 2023. Hazard class 6.1. Packing group II.

## Personal protection

Safety glasses, gloves, good ventilation. Handle as a possible cancer hazard.

### Safety phrases

(The meaning of any safety phrases which appear in this section is given [here.](#))

S45 S53.

This information was last updated on April 12, 2005. We have tried to make it as accurate and useful as possible, but can take no responsibility for its use, misuse, or accuracy. We have not verified this information, and cannot guarantee that it is up-to-date.

Note also that the information on the PTCL Safety web site, where this page was hosted, has been copied onto many other sites, often without permission. If you have any doubts about the veracity of the information that you are viewing, or have any queries, please check the URL that your web browser displays for this page. If the URL **begins** "http://msds.chem.ox.ac.uk/" the page is maintained by the Safety Officer in Physical Chemistry at Oxford University. If not, this page is a copy made by some other person and we have no responsibility for it.

---

## Specifications

1. 99.5% Epichlorohydrin
2. mainly used in epoxy resin
3. raw material: propylene, liquid chlorine

**Property:** easy to volatilize, the unstable colorless liquid, has with the chloroform, the ether similar irritant smell .Density1.1806g/cm<sup>3</sup>,Boiling point116.11°C,Solidification point-57.2°C,Refractive index (nd<sub>20</sub>)1.4382,Flash point40.6°C,Self-ignition point 415°C,In the water, can mix slightly soluble with many kinds of organic solvents dissolves, may form the azeotropy with many kinds of organic liquid.

**Application:** mainly uses in producing the epoxy resin, the synthetic glycerine, the chlorohydrin rubber, the nitroglycerine, the glass fiber reinforced plastic, the electric insulation product, but these products are also widespread apply in domains and so on chemical industry, light industry, transportation, medicine, electronic electric appliance.

**Toxicity and protection:** Violently poisonous, may by the skin absorption, stimulate the skin and the mucous membrane

## Specification:

TEST	SPECIFICATION
EPICHLOROHYDRINE (m/m)	99.5% MIN
COLOR (Pt-Co)	15 MAX
MOISTURE % (m/m)	0.05%MAX
DENSITY(20°C) g/cm <sup>3</sup>	1.180~1.183