



MATERIAL SAFETY DATA SHEETS

239

Epichlorohydrin

1. CHEMICAL IDENTITY

Chemical Name : Epichlorohydrin

Chemical Classification: Toxic, Flammable **Trade Name :**

Synonyms: Chloromethyloxirane, 3-Chloropropylene oxide, 1 -Chloro-2,3-epoxypropane

Formula : C₃H₅ClO

CAS No: 106-89-8

UN No: 2023

Regulated Identification

Shipping Name : Epichlorohydrin

Hazchem Code : 3W

Codes / Label : Class 6.1, Toxic, Flammable

Hazardous Waste ID No : 9

HAZARDOUS INGREDIENTS	C.A.S. No.	HAZARDOUS INGREDIENTS	C.A.S. No.
1 Epichlorohydrin	106-89-8	3	
2		4	

2. PHYSICAL / CHEMICAL DATA

Boiling Pt. °C: 117.9

Physical State: Liquid

Appearance: Colourless

Melting Pt °C: -25.6

Vapour Pressure @ 35°C mmHg: 16.4 mm Hg @ 25 deg C

Odour: irritating, chloroform-like odour.

Vapour Density(Air =1): 3.29

Solubility in water at 30°C @ 25 deg C: 6.59X10+4 mg/l g/100ml:

Others: Soluble in ether, benzene and ethanol.

Specific Gravity (Water =1): 1.1750 @ 25 deg C/4 deg C

pH :

3. FIRE / EXPLOSION HAZARD DATA

Flammability : Yes

LEL: 3.8

Flash Point °C in OC: 40.6

TDG Flammability:

UEL: 21

Flash Point °C in CC: 21.0

Autoignition Temperature °C : 415

Explosion sensitivity to impact: Stable

Explosion sensitivity to static Electricity:

Hazardous Combustion Products : When heated to decomposition it emits phosgene, hydrogen chloride and carbon monoxide.

Hazardous Polymerization : Can polymerize in presence of strong acids and bases, particularly when hot.

Combustible Liquid: Yes

Explosive Material: No

Corrosive Material No

Flammable Material: Yes

Oxidiser : No

Others:

Pyrophoric Material: No

Organic Peroxide : No

4. REACTIVITY DATA

Chemical Stability : Stable under room temperature

Incompatibility with other material : Strong acids, caustics, zinc, aluminium and strong oxidisers

Reactivity : Reacts violently with water, nitric acid, 2-aminoethanol, aniline,

chlorosulphonit acid, oleum, sulphuric acid.

Hazardous :

Reaction Products

5. HEALTH HAZARD DATA

Routes of entry: Inhalation, Ingestion, Skin and Eyes

Effects of Exposure / Symptoms:

Moderate to severe irritation of eyes, skin and mucous membranes. Symptoms include nausea, vomiting, abdominal discomfort, cough, laboured breathing and cyanosis.

Emergency Treatment :

Inhalation: If a person breathes in large amounts of epichlorohydrin, move the exposed person to fresh air. Perform artificial respiration if breathing has stopped. Keep him warm and at rest.

Skin: Flush the contaminated skin with water and soap.

Eyes: Irrigate eyes with copious amounts of water for at least 15 mins.

Ingestion: Get the affected person to vomit. Do not make an unconscious person vomit.

LD50 (oral-rat) mg/kg:	90	STEL:	
LC50 (rat) mg/kg:	250 ppm/8H	Odour Threshold:	10 ppm (50 mg/m ³)
Permissible Exposure Limit:	5 ppm (19 mg/m ³), skin	TLV (ACGIH) :	2 ppm (10 mg/m ³)

NFPA Hazard	Health	Flammability	Reactivity	Special
Signals	3	2	2	

6. PREVENTIVE MEASURES

Personal Protective Equipment : Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Skin: Wear appropriate protective gloves to prevent skin exposure. Clothing: Wear appropriate protective clothing to prevent skin exposure.

Handling : Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and wash before reuse. Use only in a well ventilated area. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Do not ingest or inhale. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage : Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Outside or detached storage is preferred.

Precautions :

7. EMERGENCY / FIRST AID MEASURES

FIRE:

Fire Extinguishing Media : Alcohol foam, dry chemical, carbon dioxide, water spray

Special Procedure : Containers may explode in fire because of polymerisation. Avoid use of dry chemical if fire occurs in container with confined vent.

Unusual Hazards :

EXPOSURE: First Aid Measures:

Inhalation: If a person breathes in large amounts of epichlorohydrin, move the exposed person to fresh air. Perform artificial respiration if breathing has stopped. Keep him warm and at rest.

Skin: Flush the contaminated skin with water and soap.

Eyes: Irrigate eyes with copious amounts of water for at least 15 mins.

Ingestion: Get the affected person to vomit. Do not make an unconscious person vomit.

Antidotes / Dosages:**SPILLS :**

Steps To Be Taken : Remove all ignition sources and ventilate the area. Use absorbent paper to pick-up spilled material. Wash the surface with water and detergent.

Waste Disposal Method: all wastes in vapour-tight plastic bags. May be disposed of by atomizing in a suitable combustion chamber.

8. ADDITIONAL INFORMATION / REFERENCES

Epichlorohydrin is used in manufacture of epoxy resins, glycerol and other intermediates.

9. MANUFACTURERS / SUPPLIERS DATA

NAME OF FIRM :	Contact person
MAILING ADDRESS :	in Emergency :
TELEPHONE / TELEX NOS :	Local Bodies involved :
TELEGRAPHIC ADDRESS :	Standard Packing :
OTHERS :	Trem Card Details / Ref :

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