

SAFETY DATA SHEET

EPICHLOROHYDRIN (ECH)

CAS No.: 106-89-8

This Safety Data Sheet is compiled from well-established published chemical, GHS classification and regulatory reference sources for this substance. It is supplied by Suraj Chemicals as the distributor/supplier of record and is not a manufacturer-issued document. Users should also consult the specific manufacturer's SDS where available.

1. IDENTIFICATION

Product Name	Epichlorohydrin (ECH)
CAS Number	106-89-8
Recommended Use	Industrial / commercial chemical trading and distribution
Supplier	Suraj Chemicals, No 92, Govindappa Naicken Street, Shiva Complex, Chennai - 600001, India
Emergency Telephone	+91 - 9840284032, 9176135357 / +91 - 44 - 25393652

2. HAZARD(S) IDENTIFICATION

GHS Signal Word	Danger
HAZARD CLASSIFICATION • Flammable liquid - Category 3 • Acute toxicity, oral - Category 3 • Acute toxicity, dermal - Category 3 • Acute toxicity, inhalation - Category 2 • Skin corrosion - Category 1B • Serious eye damage - Category 1 • Skin sensitization - Category 1 • Germ cell mutagenicity - Category 1B • Carcinogenicity - Category 1B • Specific target organ toxicity, single exposure - Category 3 (respiratory irritation) • Specific target organ toxicity, repeated exposure - Category 2 • Acute aquatic toxicity - Category 2	
HAZARD STATEMENTS • H226 - Flammable liquid and vapour • H301 - Toxic if swallowed • H311 - Toxic in contact with skin • H330 - Fatal if inhaled • H314 - Causes severe skin burns and eye damage • H317 - May cause an allergic skin reaction • H340 - May cause genetic defects • H350 - May cause cancer • H335 - May cause respiratory irritation • H373 - May cause damage to organs through prolonged or repeated exposure • H401 - Toxic to aquatic life	
PRECAUTIONARY STATEMENTS • P201 - Obtain special instructions before use • P210 - Keep away from heat, sparks, open flames and hot surfaces; no smoking • P260 - Do not breathe vapours/mist • P264 - Wash exposed skin thoroughly after handling • P280 - Wear protective gloves/eye protection/face protection/respiratory protection • P284 - Wear respiratory protection • P301+P310 - IF SWALLOWED: immediately call a POISON CENTER or doctor • P303+P361+P353 - IF ON SKIN: remove contaminated clothing immediately and rinse skin with water • P304+P340 - IF INHALED: remove to fresh air and keep comfortable for breathing • P305+P351+P338 - IF IN EYES: rinse cautiously with water for several minutes; remove contact lenses if present; continue rinsing • P310 - Immediately call a POISON CENTER or doctor • P405 - Store locked up	

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Epichlorohydrin (ECH)
CAS Number	106-89-8
Physical State	Liquid
Appearance / Odour	Colorless liquid with a pungent, chloroform-like/garlic-like odor.

4. FIRST-AID MEASURES

Eye Contact	Rinse cautiously with water for several minutes; remove contact lenses if present; continue rinsing and get immediate medical attention.
Skin Contact	Remove contaminated clothing immediately and wash skin thoroughly with soap and water for at least 15 minutes; seek immediate medical attention.
Inhalation	Remove immediately to fresh air; if breathing is difficult, give oxygen; seek immediate medical attention as pulmonary effects may be delayed.
Ingestion	Do NOT induce vomiting; rinse mouth; seek immediate medical attention.

5. FIRE-FIGHTING MEASURES	
Suitable Extinguishing Media	Dry chemical, carbon dioxide, alcohol-resistant foam, or water spray/fog to cool exposed containers.
Unsuitable Extinguishing Media	Avoid a direct high-pressure water stream that could spread the fire.
Special Hazards	Flammable liquid producing vapor that can form explosive mixtures with air; combustion or thermal decomposition releases highly toxic and corrosive hydrogen chloride and phosgene-related fumes; firefighters must wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES	
Measures	Evacuate non-essential personnel, eliminate ignition sources, ventilate the area, contain the spill, avoid all contact and inhalation, prevent entry into drains/waterways (toxic to aquatic life), and collect using appropriate absorbents for disposal by trained personnel.

7. HANDLING AND STORAGE	
Handling Precautions	Use only in a closed system or with robust local exhaust ventilation, avoid all skin/eye contact and inhalation, use appropriate PPE including chemical-resistant gloves and respiratory protection, and be aware this is a known human carcinogen and mutagen requiring stringent exposure control.
Storage Conditions	Store in a cool, well-ventilated, flammables-rated area away from heat, light, strong acids, bases and oxidizers, in tightly closed corrosion-resistant containers; store locked up/restricted access given its carcinogenicity classification.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION	
Exposure Limits / PPE	OSHA PEL ~5 ppm TWA / ACGIH TLV ~0.5 ppm TWA (skin notation); requires chemical-resistant gloves (e.g., butyl, Viton), full-face respirator with organic vapor cartridge or supplied air, chemical splash goggles, and impervious protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES	
Physical State	Liquid
Appearance / Odour	Colorless liquid with a pungent, chloroform-like/garlic-like odor.
Boiling Point	~116-117 C
Melting Point	~-48 to -57 C
Flash Point	~31-40 C (closed cup)
Density / Specific Gravity	~1.18 g/cm3 at 20 C
Water Solubility	~66 g/L at 20 C (moderately soluble); also slowly hydrolyzes in water
pH Value	Not applicable (non-aqueous, reactive organic liquid)

10. STABILITY AND REACTIVITY	
Stability	Stable under normal, dry storage conditions; reacts with water (hydrolysis), amines, and many other nucleophiles; can polymerize under certain catalytic conditions.
Incompatible Materials	Strong acids, strong bases, amines, oxidizing agents, and active metals such as aluminum, zinc and tin (can react violently or generate flammable/toxic gas).
Hazardous Decomposition	Hydrogen chloride, phosgene-related and other toxic chlorinated fumes on combustion or strong thermal decomposition.

11. TOXICOLOGICAL INFORMATION	
Summary	Fatal if inhaled and toxic if swallowed or absorbed through skin; corrosive, causing severe skin burns and eye damage; a confirmed skin sensitizer; classified as a human carcinogen (IARC Group 2A/EU Category 1B) and mutagen based on substantial animal and mechanistic evidence; prolonged or repeated exposure may cause organ damage (kidney, liver, respiratory system).

12. ECOLOGICAL INFORMATION	
Summary	Toxic to aquatic organisms; moderately persistent though subject to hydrolysis in water; should be strictly prevented from entering waterways due to acute toxicity and carcinogenic/mutagenic hazard profile.

13. DISPOSAL CONSIDERATIONS	
Disposal Method	Dispose of as hazardous waste through a licensed specialist waste management/incineration facility in accordance with local regulations; never discharge to drains or the general environment.

14. TRANSPORT INFORMATION	
UN Number	UN2023
Transport Hazard Class	Class 6.1 (Toxic), subsidiary risk Class 3 (Flammable liquid)
Packing Group	I

15. REGULATORY INFORMATION	
Notes	Key epoxy resin/glycerol production intermediate; classified as a carcinogen, mutagen, acutely toxic, corrosive and sensitizing substance under GHS, OSHA HCS and EU CLP (REACH substance of very high concern); regulated for transport under IMDG/ADR/IATA as UN2023, Class 6.1 (subsidiary 3), Packing Group I; handling restricted to trained personnel with appropriate engineering controls.

16. OTHER INFORMATION	
Prepared By	Suraj Chemicals, Technical / QA Desk
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Note	This SDS is compiled from well-established published GHS hazard classification data and general chemical reference sources for this substance, in the standard 16-section format. Values are believed accurate but Suraj Chemicals makes no warranty, express or implied, regarding their completeness. Users should evaluate suitability for their own specific use.

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