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ESTD.1976 MULTI CHEM YOUR CHEMICAL PARTNER

SAFETY DATA SHEET

EPICHLOROHYDRIN

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

1.1 Product identifier:	
CAS Number:	106-89-8
EC number:	203-439-8
1.2 SYNONYMS:	• 1-chloro-2,3-epoxypropane • 3-chloro-1,2-epoxypropane

SECTION 2: Hazards identification:

2.1 Classification of the substance or mixture:	Classification according to Regulation (EC) No 1272/2008 The substance is not classified according to the CLP regulation.
2.2 Label elements:	Labelling according to Regulation (EC) No 1272/2008 Acute Toxicity, oral (Category 3) Acute Toxicity, inhalation (Category 3) Acute Toxicity, dermal (Category 3) Aquatic chronic toxicity (category 3) Carcinogenicity (Category 1B) Serious eye damage (Category 1) Flammable liquid (Category 3) Reproduction damage (category 2) Skin corrosion (Category 1B) Skin sensitivity (category 1)
Hazard Pictograms:	
Signal Word:	Danger
Hazard statements:	**H226:** Flammable liquid and vapour. **H301:** Toxic if swallowed. **H311:** Toxic in contact with skin. **H314:** Causes severe skin burns and eye damage.

	H317: May cause an allergic skin reaction. **H331:** Toxic if inhaled. **H350:** May cause cancer. **H361:** Suspected of damaging fertility or the unborn child. **H412:** Harmful to aquatic life with long lasting effects.
Precautionary Statements:	**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. **P303+P361+P353:** IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. **P308+P313:** IF exposed or concerned: Get medical advice/attention. **P403+P233:** Store in a well-ventilated place. Keep container tightly closed.
2.3 Other hazards:	
Inhalation:	can cause respiratory irritation, coughing, wheezing, and, at high concentrations, may lead to severe respiratory damage or central nervous system depression.
Ingestion:	can cause severe gastrointestinal irritation, nausea, vomiting, abdominal pain, and potentially damage to the liver and kidneys.

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Skin Contact:	can cause irritation, redness, burns, and allergic reactions, potentially leading to more severe tissue damage with prolonged exposure.
Eye contact:	can cause severe irritation, redness, pain, and potential damage to the cornea, which may lead to vision impairment if not treated promptly.
Chronic Exposure:	can lead to long-term health effects, including damage to the liver and kidneys, nervous system disorders, respiratory issues, and an increased risk of cancer due to its carcinogenic properties.
Aggravation of pre-existing conditions:	may aggravate pre-existing conditions such as respiratory disorders (e.g., asthma), liver or kidney disease, and skin conditions, increasing the severity of symptoms and complications.

SECTION 3: Composition/information on ingredients

3.1 Chemical characterisation:	Substances
CAS No:	Description: 106-89-8 EPICHLOROHYDRIN
Identification number(s):	EC number: 203-439-8

SECTION 4: First aid measures

4.1 Description of first aid measures	
General information:	
After inhalation:	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

After skin contact:	Remove contaminated clothing immediately. Wash with soap and water. Consult a physician.
After eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. consult a physician.
After swallowing:	Rinse mouth with water. Immediately after ingestion. Never give anything by mouth to an unconscious person. Do not induce vomiting. Consult a physician.
4.2 Most important symptoms and effects, both acute and delayed:	important symptoms and effects include acute respiratory irritation, skin burns, eye damage, nausea, and vomiting, with delayed effects such as liver and kidney damage, neurological disorders, and increased cancer risk with prolonged or repeated exposure.
4.3 Indication of any immediate medical attention and special treatment needed:	Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media:	Carbon dioxide. Water spray. Alcohol-resistant foam.
5.2 Special hazards arising from the substance or mixture:	Flammable liquid and vapour. Decomposes in a fire giving off toxic fumes: Hydrogen chloride gas, Phosgene, Carbon monoxide.
5.3 Advice for firefighters:	Wear fully protective suit, safety glasses and respiratory device. Cool tanks/drums with water spray/remove them into safety.
5.4 further information:	no data available

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.
	Beware of vapours accumulating to form explosive concentrations. Avoid dust accumulation. Seek medical attention.
6.2 Environmental precautions:	Do not enter this chemical into drains.
6.3 Methods and material for containment and cleaning up:	Take up spill into absorbent material, e.g.: sand, earth, vermiculite, powdered limestone. Scoop absorbed substance into closing containers. Spill must not return in its original container. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

SECTION 7: Handling and storage

7.1 Precautions for safe handling:	For use in are with adequate ventilation. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material Do not use in confined spaces. Electrostatic discharge protection. Minimize dust generation and accumulation. Avoid ingestion and inhalation.
7.2 Conditions for safe storage, including any incompatibilities:	Store in original containers. Keep containers securely sealed Store in a cool, dry, well-ventilated area.

	Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Store in a dry and dark area.
Requirements to be met by storerooms and receptacles:	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.
7.3 Specific end uses:	no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters	
Additional information about design of technical facilities:	A system of local and general exhaust is recommended.
8.2 Exposure controls	
Appropriate engineering controls	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Personal protective equipment:	Dust respirator, protective masks, wearing anti chemical gloves, rubber gloves, etc.
General protective and hygienic measures:	Eyes, body and hand protection, maintain indoor air unobstructed. Wear protective equipment.
	Respiratory protection: Required.
Protection of hands:	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. Wash and dry hands.
	Eye protection: Required

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Protection of Body:	Complete suit protecting against chemicals, Flame retardant antistatic protective clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties General Information	
Appearance: Form:	Liquid
Colour:	Colourless
Odour:	Pungent
pH-value:	No data available
Melting point/Melting range:	-57°C
Boiling point/Boiling range:	117°C
Flammability (solid, gaseous):	Flammable
Ignition temperature:	385°C
Decomposition temperature:	225°C
Self-igniting:	Not defined
Flash point:	28°C
Danger of explosion:	Yes
Explosion limits: Lower:	3.8
Explosion limits: Upper:	21.0
Vapour pressure:	22.8 hPa
Density at 20 °C:	1.18
Relative density:	1.18
Vapour density:	3.2
Evaporation rate:	No data available
Solubility in / Miscibility with- ·water at 20 °C:	Highly soluble
Partition coefficient:(n-octanol/water)	No data available
Viscosity:	1.037 mPa.s at 20°C

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SECTION 10: Stability and reactivity

10.1 Reactivity	May decompose on long exposure to light. Risk of explosion.
10.2 Chemical stability	This chemical is stable under storage conditions.
10.3 Possibility of hazardous reactions	Strong oxidizers, alkali metals and alkaline earth metals may cause fires or explosions.
10.4 Conditions to avoid	Avoid friction, sparks, or other means of ignition. Avoid overheating. Keep away from direct sunlight.
10.5 Incompatible materials	Oxidizing agents, Earth metals, Alcohols, amines, Alkalis.
10.6 Hazardous decomposition products	Thermal decomposition will evolve: Hydrogen chloride gas, Phosgene, Carbon monoxide.

SECTION 11: Toxicological information

11.1 Information on toxicological effects	
Acute Toxicity:	**LD50** (Oral, Rat): 282 mg/kg **LD50** (Dermal, rat): 515 mg/kg **LC50** (Inhalation Rat): 4114 mg/m^3 (4 hr)
Skin corrosion/Irritation:	Causes severe skin burns and eye damage.
Serious eye damage/irritation:	Causes serious eye damage.
Respiratory damage/irritation:	May cause an allergic skin reaction.
Ingestion:	No data available
Germ cell mutagenicity:	No data available
Carcinogenicity:	May cause cancer. LOAEL (rat) (prolonged exposure): 2mg/kg
Reproductive toxicity:	Suspected of damaging fertility or the unborn child. Toxicity to reproduction/Fertility. NOAEL parent: (rat) (male): 25mg/kg

Specific target organ toxicity - single exposure:	No data available
Specific target organ toxicity - repeated exposure:	No data available
Aspiration hazard:	No data available
Signs and Symptoms of Exposure:	Refer section 2.3
11.2 Additional toxicological information	
Biodegradability:	Not biodegradable

SECTION 12: Ecological information

12.1 Toxicity **Aquatic toxicity:**	LC50(fish): 10.6 mg/l (96hr) EC50(daphnia): 23.9 mg/l (48 hr) EC50(algae): no data available
12.2 Persistence and degradability:	Not biodegradable and persistent
12.3 Bioaccumulative potential:	Not bioaccumulative
12.4 Mobility in soil:	low mobility
12.5 Other adverse effects:	No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods	
Uncleaned packaging **Recommendation:**	dispose of in accordance with local hazardous waste regulations
Recommended cleansing agents:	Water, Isopropyl alcohol, Mild detergents, specialized degreasers.

SECTION 14: Transport information

14.1 UN-Number · ADR, ADN, IMDG, IATA:	2023
14.2 UN proper shipping name · ADR, ADN, IMDG, IATA:	EPICHLOROHYDRIN
14.3 Transport hazard class(es) · ADR, ADN, IMDG, IATA :	3, SUB-CLASS 8
14.4 Packing group · ADR, IMDG, IATA:	2

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14.5 Environmental hazards:	YES, harmful for aquatic life.
14.6 Special precautions for user:	Handle responsibly.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Directive 2012/18/EU	Directive 2012/18/EU, under that this substance is classified in listed substance as flammable and toxic substance.
Named dangerous substances:	This substance is listed in the annex 1 to the directive.
15.2 Chemical safety assessment:	Chemical assessment has been carried out under REACH regulation.

SECTION 16: Other information

The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.