

# SAFETY DATA SHEET

Creation Date 22-Apr-2010

Revision Date 19-Dec-2025

Revision Number 6

This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)

## 1. Identification

<b>Product Name</b>	Epichlorohydrin
<b>Cat No. :</b>	<b>AC43071000; AC430711000; AC430718000</b>
<b>CAS No</b>	106-89-8
<b>Synonyms</b>	1-Chloro-2,3-epoxypropane

**Recommended Use**  
Uses advised against

Laboratory chemicals.  
Food, drug, pesticide or biocidal product use.

## Details of the supplier of the safety data sheet

### Company

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

### Emergency Telephone Number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

## 2. Hazard(s) identification

### Classification

This chemical is considered hazardous according to [US] OSHA (29 CFR 1910.1200, 2024)

Flammable liquids	Category 3
Acute oral toxicity	Category 3
Acute dermal toxicity	Category 3
Acute Inhalation Toxicity - Dusts and Mists	Category 3
Skin Corrosion/Irritation	Category 1 B
Serious Eye Damage/Eye Irritation	Category 1
Skin Sensitization	Category 1
Carcinogenicity	Category 1B
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system.	

### Label Elements

**Signal Word**

Danger

**Hazard Statements**

Flammable liquid and vapor  
Causes severe skin burns and eye damage  
May cause an allergic skin reaction  
May cause respiratory irritation  
May cause cancer  
Toxic if swallowed, in contact with skin or if inhaled

**Precautionary Statements****Prevention**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Use only outdoors or in a well-ventilated area  
Do not breathe dust/fume/gas/mist/vapors/spray  
Contaminated work clothing should not be allowed out of the workplace  
Wear protective gloves  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
Keep container tightly closed  
Ground and bond container and receiving equipment  
Use explosion-proof electrical/ventilating/lighting equipment  
Keep cool  
Wear protective gloves/protective clothing/eye protection/face protection  
Take action to prevent static discharges  
Use non-sparking tools

**Response**

Immediately call a POISON CENTER or doctor

**Inhalation**

IF INHALED: Remove person to fresh air and keep comfortable for breathing

**Skin**

Take off contaminated clothing and wash before reuse  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower  
If skin irritation or rash occurs: Get medical advice/attention

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

**Ingestion**

Rinse mouth

Do NOT induce vomiting

**Fire**

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish

**Storage**

Store locked up

Store in a well-ventilated place. Keep container tightly closed

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

**Hazards classified under paragraph (d)(1)(ii) of 1910.1200**

No information available

WARNING. Cancer and Reproductive Harm - <https://www.p65warnings.ca.gov/>.**3. Composition/information on Ingredients**

Component	CAS No	Weight %
Epichlorohydrin	106-89-8	>95

**4. First-aid measures**

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
<b>Inhalation</b>	Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. If not breathing, give artificial respiration.
<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or poison control center immediately.
<b>Most important symptoms and effects</b>	Causes burns by all exposure routes. May cause allergic skin reaction. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing
<b>Notes to Physician</b>	Treat symptomatically

**5. Fire-fighting measures**

**Suitable Extinguishing Media** CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam. Water mist may be used to cool closed containers.

**Unsuitable Extinguishing Media** Water may be ineffective

**Flash Point** 28 °C / 82.4 °F

**Method -** No information available

**Autoignition Temperature** 385 °C / 725 °F

**Explosion Limits**

**Upper** No data available

**Lower** No data available

**Sensitivity to Mechanical Impact** No information available

**Sensitivity to Static Discharge** No information available

**Specific Hazards Arising from the Chemical**

Flammable. Containers may explode when heated. Contact with water liberates extremely flammable gases. Vapors may travel to source of ignition and flash back. Vapors may form explosive mixtures with air.

**Hazardous Combustion Products**

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Phosgene. Hydrogen chloride gas.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

**NFPA**

Health	Flammability	Instability	Physical hazards
3	3	2	N/A

**6. Accidental release measures****Personal Precautions**

Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges.

**Environmental Precautions**

Do not flush into surface water or sanitary sewer system.

**Methods for Containment and Clean Up** Remove all sources of ignition. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Use spark-proof tools and explosion-proof equipment.

**7. Handling and Storage****Handling**

Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance. Use only non-sparking tools.

**Storage.**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Refrigerator/flammables. Corrosives area. Incompatible Materials. Strong oxidizing agents. Strong acids. Alkaline.

**8. Exposure controls / personal protection****Exposure Guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH	Mexico OEL (TWA)
Epichlorohydrin	TWA: 0.5 ppm Skin	(Vacated) TWA: 2 ppm (Vacated) TWA: 8 mg/m <sup>3</sup> Skin TWA: 5 ppm TWA: 19 mg/m <sup>3</sup>	IDLH: 75 ppm	TWA: 0.5 ppm

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH: NIOSH - National Institute for Occupational Safety and Health

**Engineering Measures**

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting equipment. Ensure adequate ventilation, especially in confined areas.

**Personal Protective Equipment**

**Eye/face Protection** 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 and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Recommended Filter type:** Organic gases and vapours filter. Type A. Brown. conforming to EN14387.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

### Appearance

**Physical State** Liquid

**Color** Colorless

**Odor** No information available

**Odor Threshold** No information available

### Property

**Melting Point/Range** -57 °C / -70.6 °F

**Softening Point** No data available

**Boiling Point/Range** 115 - 117 °C / 239 - 242.6 °F

**Flash Point** 28 °C / 82.4 °F

**Flammability (liquid)** Flammable

**Flammability (solid,gas)** Not applicable

**Explosion Limits**

### Values

**Lower** 3.8 vol%

**Upper** 21 vol%

385 °C / 725 °F

No data available

No data available

1.12 cP at 20 °C

60g/L (10°C)

No information available

### log Pow

0.45

17.3 mbar @ 20 °C

1.180

Not applicable

No data available

(liquid) Not applicable

### Remarks

### Method

**Method** - No information available

On basis of test data

Liquid

**Autoignition Temperature**

**Decomposition Temperature**

**pH**

**Viscosity**

**Water Solubility**

**Solubility in other solvents**

**Partition Coefficient (n-octanol/water)**

**Component**

Epichlorohydrin

**Vapor Pressure**

**Density / Specific Gravity**

**Bulk Density**

**Vapor Density**

**Particle characteristics**

### Method

### Other Information

**Molecular Formula**

C3 H5 Cl O

**Molecular Weight**

92.52

**Explosive Properties**

explosive air/vapour mixtures possible

## 10. Stability and reactivity

**Reactive Hazard** None known, based on information available

**Stability** Stable under recommended storage conditions.

**Conditions to Avoid** Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition. Exposure to moist air or water.

**Incompatible Materials** Strong oxidizing agents, Strong acids, Alkaline

**Hazardous Decomposition Products** Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Phosgene, Hydrogen chloride gas

**Hazardous Polymerization** Hazardous polymerization may occur.

**Hazardous Reactions** None under normal processing.

## 11. Toxicological information

### Information on expected route of exposure

<b>Inhalation</b>	Toxic by inhalation. Causes burns.
<b>Ingestion</b>	Toxic if swallowed. Causes burns.
<b>Eyes</b>	Causes burns.
<b>Skin</b>	Toxic in contact with skin. Causes burns. May produce an allergic reaction.

### Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Epichlorohydrin	LD50 = 90 mg/kg ( Rat )	LD50 = 515 mg/kg ( Rabbit )	250 ppm ( Rat ) [MOE Risk Assessment vol. 1 (2002)]

**Toxicologically Synergistic Products** No information available

**(b) skin corrosion/irritation;** Category 1 B

**(c) serious eye damage/irritation;** Category 1

**(d) respiratory or skin sensitization;**  
**Respiratory** Based on available data, the classification criteria are not met  
**Skin** Category 1

May cause sensitization by skin contact

**(e) germ cell mutagenicity;** Based on available data, the classification criteria are not met

**(f) carcinogenicity;** Category 1B

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Epichlorohydrin	106-89-8	Group 2A	Reasonably Anticipated	A3	X	A3

IARC (International Agency for Research on Cancer)

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

Known - Known Carcinogen

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

A1 - Known Human Carcinogen

A2 - Suspected Human Carcinogen

A3 - Animal Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

**(g) reproductive toxicity;** Based on available data, the classification criteria are not met

**(h) STOT-single exposure;** Based on available data, the classification criteria are not met

**(i) STOT-repeated exposure;** Based on available data, the classification criteria are not met

<b>Target Organs</b>	None known.
<b>(i) aspiration hazard;</b>	Based on available data, the classification criteria are not met
<b>Symptoms / effects, both acute and delayed</b>	Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.
<b>Other Adverse Effects</b>	The toxicological properties have not been fully investigated.

<b>Endocrine Disrupting Properties</b>	This product does not contain any known or suspected endocrine disruptors.		
<b>Component</b>	<b>EU - Endocrine Disrupters Candidate List</b>	<b>EU - Endocrine Disruptors - Evaluated Substances</b>	<b>Japan - Endocrine Disruptor Information</b>
Epichlorohydrin	Group III Chemical	Not applicable	Not applicable

## 12. Ecological information

### Ecotoxicity

The product contains following substances which are hazardous for the environment. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

<b>Component</b>	<b>Freshwater Algae</b>	<b>Freshwater Fish</b>	<b>Microtox</b>	<b>Water Flea</b>
Epichlorohydrin	Not listed	LC50 = 10-30mg/L 96h	EC50 = 1160 mg/L 15 min EC50 = 2310 mg/L 5 min EC50 = 670 mg/L 30 min	EC50 = 24 mg/L 48h

**Persistence and Degradability** Persistence is unlikely

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its water solubility.

<b>Component</b>	<b>log Pow</b>
Epichlorohydrin	0.45

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

<b>Component</b>	<b>RCRA - U Series Wastes</b>	<b>RCRA - P Series Wastes</b>
Epichlorohydrin - 106-89-8	U041	-

## 14. Transport information

### DOT

<b>UN-No</b>	UN2023
<b>Proper Shipping Name</b>	EPICHLOROHYDRIN
<b>Hazard Class</b>	6.1
<b>Subsidiary Hazard Class</b>	3
<b>Packing Group</b>	II

### TDG

<b>UN-No</b>	UN2023
<b>Proper Shipping Name</b>	EPICHLOROHYDRIN
<b>Hazard Class</b>	6.1
<b>Subsidiary Hazard Class</b>	3
<b>Packing Group</b>	II

### IATA

<b>UN-No</b>	UN2023
<b>Proper Shipping Name</b>	Epichlorohydrin

Hazard Class	6.1
Subsidiary Hazard Class	3
Packing Group	II
<b>IMDG/IMO</b>	
UN-No	UN2023
Proper Shipping Name	Epichlorohydrin
Hazard Class	6.1
Subsidiary Hazard Class	3
Packing Group	II

## 15. Regulatory Information

### United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Epichlorohydrin	106-89-8	X	ACTIVE	-

#### Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

**TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)** Not applicable

**TSCA 12(b) - Notices of Export** Not applicable

### International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Epichlorohydrin	106-89-8	X	-	203-439-8	X	X	X	X	X	KE-05647

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

### U.S. Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Component	CAS No	Weight %	SARA 313 - Threshold Values %	SARA 313 - Reporting thresholds
Epichlorohydrin	106-89-8	>95	0.1 %	-

#### SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

#### CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Epichlorohydrin	X	100 lb	-	-

#### Clean Air Act

Component	HAPS Data	Class 1 Ozone Depleters	Class 2 Ozone Depleters
Epichlorohydrin	X	-	-

**OSHA - Occupational Safety and Health Administration** Not applicable

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

Component	Hazardous Substances RQs	CERCLA Extremely Hazardous Substances RQs	SARA Reportable Quantity (RQ)
Epichlorohydrin	100 lb	100 lb	100 lb 45.4 kg

**California Proposition 65**

This product contains the following Proposition 65 chemicals.

Component	CAS No	California Prop. 65	Prop 65 NSRL	Category
Epichlorohydrin	106-89-8	Carcinogen Male Reproductive	9 µg/day	Carcinogen

**U.S. State Right-to-Know Regulations**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Epichlorohydrin	X	X	X	X	X

**U.S. Department of Transportation**

Reportable Quantity (RQ): Y  
DOT Marine Pollutant Y  
DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security**

This product contains the following DHS chemicals:

**Legend** - STQs = Screening Threshold Quantities, APA = A placarded amount

Component	DHS Chemical Facility Anti-Terrorism Standard
Epichlorohydrin	Release STQs - 20000lb

**Other International Regulations****Mexico - Grade**

Serious risk, Grade 3

**Authorisation/Restrictions according to EU REACH**

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Epichlorohydrin	106-89-8	-	Use restricted. See entry 28. (see link for restriction details) Use restricted. See entry 75. (see link for restriction details)	-

**REACH links**

<https://echa.europa.eu/substances-restricted-under-reach>

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Epichlorohydrin	106-89-8	Listed	Not applicable	Not applicable	Not applicable

**Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?**  
Not applicable

#### Other International Regulations

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Epichlorohydrin	106-89-8	Not applicable	Not applicable	Not applicable	Not applicable

### 16. Other Information

Prepared By	Product stewardship (Regulatory Affairs) Thermo Fisher Scientific email - begel.sdsdesk@thermofisher.com
Creation Date	22-Apr-2010
Revision Date	19-Dec-2025
Print Date	19-Dec-2025
Revision Summary	Updated to the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) which published its Final Rule in the Federal Register revising the Hazard Communication Standard (HCS/HazCom), 29 CFR 1910.1200 (2024) (HCS §1910.1200, 2024), May 20, 2024, effective July 19, 2024.

#### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**