

ALADDIN SCIENTIFIC CORPORATION
14078 Meridian Parkway, Riverside, CA. 92518

SAFETY DATA SHEET

Version: v1
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : (±)-Epichlorohydrin
Product Number : E108185
Brand : aladdin
CAS-No. : 106-89-8

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances.

1.3 Company

Company : ALADDIN SCIENTIFIC CORPORATION
Address : 14078 Meridian Parkway,
Riverside, CA. 92518
Telephone : +1 (833) 552-7181
Fax : no data available

1.4 Emergency telephone number

CHEMTREC®, Inside the USA : 1-800-424-9300
CHEMTREC®, Outside the USA :

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 3), H226

Acute toxicity, Oral (Category 3), H301

Acute toxicity, Inhalation (Category 3), H331

Acute toxicity, Dermal (Category 3), H311

Skin corrosion/irritation (Category 1B), H314

Serious eye damage/eye irritation (Category 1), H318

Skin sensitization (Category 1), H317

Carcinogenicity (Category 1B), H350

Short-term (acute) aquatic hazard (Category 3), H402

2.2 GHS Label elements, including precautionary statements

Pictogram



Danger

Signal word

Hazard statement(s)

H226

Flammable liquid and vapor

H314

Causes severe skin burns and eye damage

H317

May cause an allergic skin reaction

H331

Toxic if inhaled

H350

May cause cancer

H402

Harmful to aquatic life

H301+H311

Toxic if swallowed or in contact with skin

Precautionary statement(s)

P201

Obtain special instructions before use.

P210

Keep away from heat, hot surface, sparks, open flames and other ignition sources. - No smoking.

P202

Do not handle until all safety precautions have been read and understood.

P233

Keep container tightly closed.

P240

Ground/bond container and receiving equipment.

P241

Use explosion-proof [electrical/ventilating/lighting/.../] equipment.

P242

Use only non-sparking tools.

P243

Take precautionary measures against static discharge.

P261

Avoid breathing dust/fume/gas/mist/vapors/spray.

P264

Wash hands [and ...] thoroughly after handling.

P270

Do not eat, drink or smoke when using this product.

P271

Use only outdoors or in a well-ventilated area.

P272

Contaminated work clothing should not be allowed out of the workplace.

P273

Avoid release to the environment.

P280

Wear protective gloves/protective clothing/eye protection/face protection.

P310

Immediately call a POISON CENTER or doctor/physician.

P301+P330+P331

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353

IF ON SKIN (or hair): Take off Immediately all contaminated clothing. Rinse SKIN with water [or shower].

P308+P313

IF exposed or concerned: Get medical advice/attention.

P333+P313

IF SKIN irritation or rash occurs: Get medical advice/attention.

P361+P364

Take off immediately all contaminated clothing and wash it before reuse.

P370+P378

In case of fire: Use ... to extinguish.

P405

Store locked up.

P403+P233

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

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14078 Meridian Parkway, Riverside, CA. 92518

P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to an approved waste disposal plant.
P301+P310+P330	IF SWALLOWED: Rinse mouth. Immediately call a POISON CENTER/doctor/.
P304+P340+P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305+P351+P338+P310	IF IN EYES: Rinse cautiously with water for several minutes. If contact lenses are worn and can be easily removed, remove Contact lenses. Continue rinsing. Immediately call an emergency center/doctor.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: 3-Chloro-1,2-epoxypropene (chloromethyl)-Oxirane 1-chloro-2,3-epoxypropan
Formula	: C ₃ H ₅ ClO
Molecular weight	: 92.52
CAS No.	: 106-89-8
EC-NO.	: 203-439-8

Component	Classification	Concentration
(±)-Epichlorohydrin	Flam. Liq. 3; Acute Tox. 3; Skin Corr. 1B; Eye Dam. 1; Skin Sens. 1; Carc. 1B; H226, H301, H331, H311, H314, H318, H317, H350	analytical standard

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only,

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if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Small (incipient) fires must be extinguished with alcohol resistant foam, dry chemical powder or carbon dioxide.

Large amounts of water are ineffective. Cool containers with large amounts of water.

Unsuitable extinguishing media

no data available

5.2 Special hazards arising from the substance or mixture

Carbon oxides Hydrogen chloride gas Combustible. Fire may cause evolution of: Hydrogen chloride gas, Phosgene, dioxin Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air at elevated temperatures. Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10).

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Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge. Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons. Store under inert gas.

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Component	CAS No.	Value	Control parameters	Basis
1-chloro-2,3-epoxypropane	106-89-8	PC-TWA	1mg/m3	Occupational exposure limits for workplace harmful factors - chemical harmful factors
		Note	G2A - Possible human carcinogen skin	

		PC- STEL	2mg/m3	Occupational exposure limits for workplace harmful factors - chemical harmful factors
			G2A - Possible human carcinogen skin	

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

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection

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 and good laboratory practices. Wash and dry hands.

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection

Recommended Filter type: Filter A-(P3)

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- a) Appearance form: liquid color: Colorless
- b) Odour no data available
- c) Odour Threshold no data available
- d) pH no data available

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e) Melting point/freezing point	-25.6°C
f) Initial boiling point and boiling range	116.11°C
g) Flash point	32°C
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	1.183
n) Water solubility	Slightly soluble in water, miscible with alcohols, ethers, carbon tetrachloride, and benzene.
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties N	no data available
t) Oxidizing properties N	no data available

9.2 Other safety information

no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Risk of explosion with: aluminium chloride Amines anilines metallic chlorides Chlorites Tin Zinc Exothermic reaction with: Alkali metals Alcohols alkalines Water Zinc Tin acids Ethyleneimine aromatic amines Nitric acid sulfuric acid trichloroethene

10.4 Conditions to avoid

Heat, flames and sparks. Heating.

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

In the event of fire: see section 5

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - female - 175 mg/kg (US-EPA)

LC50 Inhalation - Rat - female - 4 h - 2,05 mg/l Remarks: (ECHA)

LD50 Dermal - Rabbit - male and female - 515 mg/kg Remarks: (ECHA)

Skin corrosion/irritation

Skin - Rabbit Result: Corrosive (Draize Test) (Regulation (EC) No 1272/2008, Annex VI) Skin - Rabbit Result: Open irritation test - 24 h

Serious eye damage/eye irritation

Eyes - Rabbit Result: Corrosive - 24 h Remarks: (ECHA) Causes serious eye damage.

Respiratory or skin sensitisation

Maximization Test - Guinea pig Result: positive (OECD Test Guideline 406) May cause sensitization by skin contact.

Germ cell mutagenicity

Ames test Salmonella typhimurium Result: positive In vitro mammalian cell gene mutation test Mouse lymphoma test Result: positive OECD Test Guideline 475 Mouse - female - Bone marrow Result: positive OECD Test Guideline 475 Rat - male and female - Bone marrow Result: Positive results were obtained in some in vivo tests.

Carcinogenicity

Presumed to have carcinogenic potential for humans

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 90 d - NOAEL (No observed adverse effect level) - 1 mg/kg Remarks: Subchronic toxicity Repeated dose toxicity - Rat - male and female - Inhalation - 88 d Remarks: Subchronic toxicity Not available Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish static test LC50 - Pimephales promelas (fathead minnow) - 10,6 - 13,2 mg/l - 96 h Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia magna (Water flea) - 24 mg/l - 48 h

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Remarks: (ECHA)

Toxicity to algae static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 15 mg/l - 72 h (OECD Test Guideline 201)

Toxicity to bacteria static test NOEC - microorganisms - 35 mg/l - 72 h Remarks: (ECHA)

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 14 d Result: 92,5 % - Readily biodegradable. (OECD Test Guideline 301C)
Remarks: (in analogy to similar products) The value is given in analogy to the following substances: 3-chloro1,2-propanediol

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

no data available

SECTION 13:

13.1 Disposal considerations

Product

Leave the remaining and non-recyclable solutions to a licensed company for disposal.

Contaminated packaging

no data available

SECTION 14: Transport information

DOT (US)

UN number: 2023

Packing group: II

Class: 6.1 (3)

Proper shipping name: Epichlorohydrin Reportable Quantity(RQ): no data available

Poison Inhalation Hazard: no data available

Environmental Hazards: yes

IMDG

UN number: 2023

Packing group: II

EMS-No: no data available

Proper shipping name: Epichlorohydrin

IATA

UN number: 2023

Packing group: II

Class: 6.1 (3)

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14078 Meridian Parkway, Riverside, CA. 92518

Proper shipping name: Epichlorohydrin

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

SECTION 16: Other information

Prepared By	Regulatory Affairs ALADDIN SCIENTIFIC CORPORATION Email: QualityAssurance@aladdinsci.com
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