

SAFETY DATA SHEET (SDS)

in accordance with Regulation (EC) No 1907/2006 (REACH), Annex II — Regulation (EU) 2020/878

Date: 08.09.2026 | Version: 4 | EN

epichlorohydrina

2-(chloromethyl)oxirane

CAS 106-89-8

C₃H₅ClO

EC 203-439-8

MOLAR MASS
92.52LOGP
0.5

HAZARD CLASSIFICATION (GHS / CLP)



Danger

H226 H350 H331 H311 H301 H314 H317

Hazard class scope limited to the harmonised classification (CLP Annex VI); classes outside the harmonised entry may require supplier self-classification (CLP Art. 4(3)) — verify with the supplier safety data sheet.

1. Identification of the substance/mixture and of the company/undertaking

1.1 Substance name	epichlorohydrina
1.1 IUPAC name	2-(chloromethyl)oxirane
1.1 CAS number	106-89-8
1.1 EC number	203-439-8
1.1 PubChem CID	7835
1.1 InChIKey	BRLQWZUYTZBJKN-UHFFFAOYSA-N
1.1 SMILES	C1C(O1)CCI
1.1 Molecular formula	C ₃ H ₅ ClO ^[7]
1.1 Molar mass	92.52 g/mol ^[7]
1.1 Exact mass	92.0029 Da ^[7]

1.2 Uses

For laboratory and research purposes. Not for use in the production of food, medicines or cosmetics without appropriate authorisation.

1.3 Details of the supplier

REFERENCE COPY — NO
SUPPLIER DETAILS — NOT FOR
DISTRIBUTION

Supplier details are not included in this reference copy. The supplier placing the substance on the market must complete this section and remains responsible for the sheet under REACH. MolGod.org prepares documentation and is not the supplier of this substance.

1.4 Emergency telephone number

Emergency telephone

112 (EU-wide emergency number)

Contact the poison centre designated in the country of placing on the market (CLP Art. 45).

2. Hazards identification



Danger

Hazard statements (H) [3][4][10]

H226	Flammable liquid and vapour
H350	May cause cancer
H331	Toxic if inhaled
H311	Toxic in contact with skin
H301	Toxic if swallowed
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction

Precautionary statements (P) [3][4][10]

P201	Obtain special instructions before use
P202	Do not handle until all safety precautions have been read and understood
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P233	Keep container tightly closed
P240	Ground and bond container and receiving equipment
P260	Do not breathe dust/fume/gas/mist/vapours/spray
P264	Wash 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
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P301+P330+P331	IF SWALLOWED: Rinse mouth; Do NOT induce vomiting
P302+P352	IF ON SKIN: Wash with plenty of water
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing; Rinse skin with water or shower
P304+P340	IF INHALED: Remove person 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 and easy to do. Continue rinsing
P308+P313	IF exposed or concerned: Get medical advice/attention
P310	Immediately call a POISON CENTER or doctor/physician
P311	Call a POISON CENTER or doctor/physician
P312	Call a POISON CENTER or doctor/physician if you feel unwell
P321	Specific treatment
P330	Rinse mouth
P333+P313	If skin irritation or rash occurs: Get medical advice/attention
P362+P364	Take off contaminated clothing
P363	Wash contaminated clothing before reuse
P370+P378	In case of fire: Use appropriate media to extinguish
P403+P235	Store in a well-ventilated place: Keep cool
P403+P233	Store in a well-ventilated place: Keep container tightly closed
P405	Store locked up
P501	Dispose of contents/container to an approved waste collection point

NOTE: CMR substance — employment of pregnant and breastfeeding women in work harmful to health is prohibited (Polish Labour Code Art. 176 § 1; Council of Ministers Regulation of 3 April 2017, Journal of Laws 2017 item 796). ^{[15][16]}

Hazard class scope limited to the harmonised classification (CLP Annex VI); classes outside the harmonised entry may require supplier self-classification (CLP Art. 4(3)) — verify with the supplier safety data sheet.

3. Composition/information on ingredients

Substance type	pure substance
CAS Number	106-89-8
EC number	203-439-8
Molecular formula	C ₃ H ₅ ClO
Concentration	≥99% (typical reagent-grade purity — to be confirmed by the supplier's specification)
Clp index no	603-026-00-6

4. First aid measures



Inhalation

Move the affected person to fresh air. Keep at rest. Call a physician. Semi-sitting position. Give oxygen if available. If not breathing: artificial respiration (qualified personnel only). ^{[1][2][13]}

Skin contact

Remove contaminated clothing. Rinse skin with soap and water (min. 15 minutes). Call a physician immediately. ^{[1][2][13]}

Eye contact

Rinse eyes with running water (min. 15 minutes). Remove contact lenses if possible. If irritation persists — consult an ophthalmologist. ^{[1][2][13]}

Ingestion

Do NOT induce vomiting (unless directed by a physician). Rinse mouth with water. Never give anything by mouth to an unconscious person. Emergency number: 112 (EU-wide). Contact the poison centre designated in your country (CLP Art. 45). ^{[1][2][13]}

Symptoms and effects

nausea, vomiting, diarrhoea; cough, shortness of breath, headache, dizziness; skin redness and irritation. ^{[3][10]}

Notes for physician

Requires verification

**Emergency numbers: Emergency: 112 (EU-wide).
Poison centre: as designated in the country of
placing on the market (CLP Art. 45).**

5. Firefighting measures

Suitable extinguishing media	Alcohol-resistant foam, carbon dioxide (CO ₂), dry chemical powder, water spray/mist. ^{[1][2][13]}
Unsuitable extinguishing media	Full/compact water jet (splashes and spreads the burning liquid, which floats on water). ^{[1][2][13]}
Specific hazards	Thermal decomposition products: CO, CO ₂ , HCl (hydrogen chloride). ^[14]
Advice for firefighters	Use self-contained breathing apparatus (SCBA). Full protective suit. ^{[1][2][13]}
Flash Point	31 [wartość z poprzedniej regeneracji, 2026-08-27]°C [PL] ^[9]
Auto-ignition temperature	411.1 [wartość z poprzedniej regeneracji, 2026-08-27]°C [PL] ^[9]

6. Accidental release measures

Personal precautions	Use personal protective equipment (see Section 8). Avoid breathing vapours. ^{[1][2][13]}
Environmental precautions	Prevent entry into sewers, groundwater and surface water. ^{[1][2][13]}
Methods for containment and cleaning up	Contain the spill with a barrier. Absorb with inert material (sand, vermiculite, diatomaceous earth). Collect into sealed, labelled containers. Do not release into drains. Remove ignition sources; use non-sparking tools. ^{[1][2][13]}
Related sections	8; 13

7. Handling and storage

Precautions	Work in a fume hood or with adequate ventilation. No eating, drinking or smoking in the work area. [1] [2] [13]
Storage temperature	Store at room temperature (15-25°C) or as indicated on the label. [1] [2] [13]
Humidity	Store in a dry place (<60% RH). [1] [2] [13]
Light	Protect from direct sunlight. [1] [2] [13]
Incompatible materials	Strong oxidizers, Ignition sources, open flames. [14]

8. Exposure controls/personal protection

8.1 Control parameters

OEL — NDS (Poland)	No NDS (OEL) value in the available working list — verify in the current MRPiPS regulation before use; do not assume the absence of a limit value.
OEL (EU)	The EU OEL value has not been verified against the available dataset — check the IOELV/BOELV directives; do not assume the absence of a value.
DNEL	No data available.
PNEC	No data available.

8.2 Personal protective equipment (PPE) [\[5\]](#)[\[6\]](#)[\[17\]](#)



Chemical-resistant protective gloves
EN ISO 374-1:2016+A1:2018
fluoroelastomer FKM
(Viton), min. 0.4 mm — NOT
nitrile (breakthrough
within minutes)



Closed safety spectacles or goggles
EN ISO 16321-1:2022 / EN
166:2001



Respiratory protection
EN 14387:2004+A1:2008
type A2-P3 filter (organic
vapours + particles)



Face shield (splash risk)
EN ISO 16321-1:2022



Chemical-resistant protective clothing
EN 13034:2005+A1:2009 (typ
6) / EN 14126:2003 (bio)



Closed safety footwear with toe protection
EN ISO 20345:2022 (S2/S3)

9. Physical and chemical properties

Property (item 9.1)	Value	Source
Physical state	Liquid	
Colour	No data available.	
Odour	No data available.	
pH (1% aqueous solution)	No data available.	
Melting point	-25.6 [wartość z poprzedniej regeneracji, 2026-08-27]°C [PL] [9]	
Boiling point	116.1°C [8]	

Property (item 9.1)	Value	Source
Flash point	31 [wartość z poprzedniej regeneracji, 2026-08-27]°C [PL] ^[9]	
Flammability	Flam. Liq. 3 (H226) ^{[3][10]}	
Lower and upper explosion limit	No data available.	
Density (20°C)	1.18 g/cm ³ ^[9]	
Vapour pressure	1.333 kPa (10 mmHg, 16.6°C) [wartość z poprzedniej regeneracji, 2026-08-27] [PL] ^[9]	
Relative vapour density	3.19 ^[22]	
Dynamic viscosity	1.03 [wartość z poprzedniej regeneracji, 2026-08-27] mPa·s [PL] ^[9]	
Kinematic viscosity	No data available.	
Refractive index n _D ²⁰	1.44195 [wartość z poprzedniej regeneracji, 2026-08-27] [PL] ^[9]	
Auto-ignition temperature	411.1 [wartość z poprzedniej regeneracji, 2026-08-27]°C [PL] ^[9]	
Decomposition temperature	Not applicable	
Rozpuszcz. w wodzie	65.9 g/L, 25°C ^[9]	
Particle characteristics	Not applicable (REACH 9.1(r))	
Partition coefficient n-octanol/water (log value)	0.5 ^[9]	
Molar mass	92.52 g/mol ^[7]	
Molecular formula	C ₃ H ₅ ClO ^[7]	
Lipinski rule (RO5)	PASS	

Where a property above reads "No data available", no measured value was found in the public sources consulted for this substance. The property has not been determined by MolGod.org and no value is inferred. "Not applicable" means the property has no meaning for this substance in the form supplied.

10. Stability and reactivity

Reactivity	Stable under normal storage and handling conditions.
Chemical stability	Thermally stable under recommended conditions.
Hazardous reactions	No hazardous reactions known under normal conditions.
Conditions to avoid	High temperatures, direct sunlight, moisture.
Incompatible materials	Strong oxidizers, Ignition sources, open flames.
Decomposition products	Thermal decomposition products:CO, CO ₂ , HCl (hydrogen chloride).

11. Toxicological information

LD50 (oral)	LD50 40 mg/kg (rat, oral) ^[7]
LD50 (dermal)	No data available.
LC50 (inhalation)	LC50 250 ppm (8 h) (rat) ^[7]
Skin irritation	Category 1 (H314) — corrosive; sub-category (1A/1B/1C) per CLP Annex VI entry. ^{[3][10]}
Eye irritation	Serious eye damage — covered by the corrosive classification (H314; CLP Annex I 3.3.2.1). ^{[3][10]}

Sensitisation	Skin, Category 1 (H317): May cause an allergic skin reaction. ^{[3][10]}
Mutagenicity	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) ^{[3][10]}
Carcinogenicity	Category 1A/1B (harmonised classification, Annex VI to CLP).
IARC classification (carcinogenicity)	IARC Group 2A — probably carcinogenic to humans. [local snapshot — not verified against the current IARC list] ^[20]
Reproductive toxicity	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) ^{[3][10]}
STOT — single exposure	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) ^{[3][10]}
STOT — repeated exposure	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) ^{[3][10]}
Aspiration hazard	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) ^{[3][10]}

12. Ecological information

Aquatic toxicity	LC ₅₀ (fish): 10.2 mg/L (Pimephales promelas, 96 h). EC ₅₀ (Daphnia): 40 mg/L (Daphnia magna, 24 h). EC ₅₀ (algae): 13 mg/L (Selenastrum capricornutum, 96 h) ^[21]
Persistence / biodegradability	No data available.
Bioaccumulative potential	log Kow = 0.5 ^[9] . Low bioaccumulation potential (log Kow < 4.5 — PBT/vPvB screening criterion per ECHA Guidance R.11). ^{[18][19]}
Mobility in soil	No data available.
PBT/vPvB assessment	Insufficient data to assess PBT/vPvB.
Endocrine disrupting properties	No information.

13. Disposal considerations

Disposal method	Hand over for disposal to licensed contractors in accordance with national and local regulations. Do not discharge into sewers.
Waste code (EWC)	16 05 06* — Laboratory and analytical chemicals (np. chemical reagents) zawierające substancje niebezpieczne. EWC code verification required. ^[12]
Packaging	Cleaned packaging may be recycled. Contaminated packaging must be treated as hazardous waste.

14. Transport information

	Class 3 — Flammable liquids		Class 6.1 — Toxic substances		Class 8 — Corrosive substances
UN number	VERIFICATION REQUIRED — no verified UN assignment.				
Transport hazard class	Suggested from GHS classification — VERIFICATION REQUIRED.				
Environmental hazard	Not classified as environmentally hazardous for transport (no H400/H410/H411 in CLP Annex VI; no marine pollutant mark required) ^[3]				
Special precautions	Handle as dangerous goods according to the assigned class (ADR/IMDG/IATA); apply the precautions appropriate to that class.				
CN/HS code	CN/HS code: verification required in the Eurostat Combined Nomenclature.				
Notes	NOTE: the GHS classification indicates the substance may be subject to dangerous goods transport regulations (ADR/IMDG/IATA). Do NOT assume absence of restrictions — verify the UN number before shipping.				

15. Regulatory information

SVHC status	SVHC status not verified against the available dataset — check the current ECHA Candidate List; do not assume absence. ^[1]
REACH Annex XIV	Not verified against the ECHA Authorisation List — check REACH Annex XIV. ^[1]
REACH Annex XVII	Subject to general entries 28–30 of REACH Annex XVII (CMR substance cat. 1A/1B): sale to the general public prohibited — supply to professional users only. ^[1]
IARC classification (carcinogenicity)	IARC Group 2A — probably carcinogenic to humans.

16. Other information

Legal status of classification: harmonised under CLP Annex VI — Reg. (EC) No 1272/2008 (as at the date of issue). Entries with an entry-into-force date after 08.09.2026 were omitted as future (not yet applicable).

Data aggregated automatically from public reference databases (PubChem, ECHA, NIST and others).

Scientific citations (2)

NIOSH skin notation (SK) profile: epichlorohydrin [CAS No. 106-89-8].. (2011). DOI: 10.26616/nioshp2011142

Gidwani B, Vyas A. Synthesis, characterization and application of epichlorohydrin- β -cyclodextrin polymer.. Colloids and surfaces. B, Biointerfaces (2014). DOI: 10.1016/j.colsurfb.2013.09.035

Full text of H statements

H226	Flammable liquid and vapour
H350	May cause cancer
H331	Toxic if inhaled
H311	Toxic in contact with skin
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H317	May cause an allergic skin reaction

Full text of P statements

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P233	Keep container tightly closed
P240	Ground and bond container and receiving equipment
P260	Do not breathe dust/fume/gas/mist/vapours/spray
P264	Wash 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
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P363	Wash contaminated clothing before reuse
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P501	Dispose of contents/container to an approved waste collection point

Abbreviations

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging (Reg. (EC) 1272/2008)
CMR	Carcinogenic, Mutagenic, toxic to Reproduction
DNEL	Derived No-Effect Level
EC	European Community number
EPI	Personal protective equipment
GHS	Globally Harmonized System
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods Code
SDS	Safety Data Sheet
LC50	Lethal Concentration, 50%
LD50	Lethal Dose, 50%
NDS	Maximum admissible concentration (workplace, PL)
NDSch	Short-term exposure limit (PL)
OEL	Occupational Exposure Limit
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals (Reg. (EC) 1907/2006)
STOT	Specific Target Organ Toxicity
SVHC	Substance of Very High Concern
TPSA	Topological Polar Surface Area
vPvB	very Persistent and very Bioaccumulative

Version history

v4 (08.09.2026)	Based on ECHA harmonised classification (Annex VI to CLP, ATP 23).
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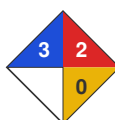
References

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- [12] European Commission. Decision 2000/532/EC establishing a list of wastes (European Waste Catalogue). OJ EU L 226/3. URL: <https://eur-lex.europa.eu/eli/dec/2000/532/oj>
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- [15] Act of 26 June 1974 — Labour Code (Poland), Art. 176 § 1. Journal of Laws 2023 item 1465. URL: <https://isap.sejm.gov.pl>
- [16] Council of Ministers of the Republic of Poland. Regulation of 3 April 2017 on the list of arduous, hazardous or health-harmful work for pregnant and breastfeeding women. Journal of Laws 2017 item 796. URL: <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20170000796>
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External links

NIST: <https://webbook.nist.gov/cgi/cbook.cgi?ID=106-89-8>
Wikidata: <https://www.wikidata.org/wiki/Q423083>
ChEMBL: https://www.ebi.ac.uk/chembl/compound_report_card/CHEMBL1421613

NFPA 704 (supplementary information — NFPA/USA system; not a required element of an EU safety data sheet under REACH Annex II)



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Author: www.MolGod.org — platform for automated safety data sheets (SDS).

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