

## SAFETY DATA SHEET (SDS)

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

Date: 21.09.2026 | Version: 1 | EN

## 1-chloro-2,3-epoxypropane; epichlorhydrin

2-(chloromethyl)oxirane

MOLAR MASS

92.52

LOGP

0.5

CAS 106-89-8

C<sub>3</sub>H<sub>5</sub>ClO

EC 203-439-8

## 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    | 1-chloro-2,3-epoxypropane; epichlorhydrin        |
| 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)CCl                                       |
| 1.1 Molecular formula | C <sub>3</sub> H <sub>5</sub> ClO <sup>[7]</sup> |
| 1.1 Molar mass        | 92.52 g/mol <sup>[7]</sup>                       |
| 1.1 Exact mass        | 92.0029 Da <sup>[7]</sup>                        |

## 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 +48 42 631 47 24

Toxicological Information Centre (CIT), Łódź — available 24/7

## 2. Hazards identification



**Danger**

### Hazard statements (H) [3][4][9]

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

### Precautionary statements (P) [3][4][9]

|                       |                                                                                                                                 |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>P201</b>           | Obtain special instructions before use                                                                                          |
| <b>P202</b>           | Do not handle until all safety precautions have been read and understood                                                        |
| <b>P210</b>           | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking                                   |
| <b>P233</b>           | Keep container tightly closed                                                                                                   |
| <b>P240</b>           | Ground and bond container and receiving equipment                                                                               |
| <b>P260</b>           | Do not breathe dust/fume/gas/mist/vapours/spray                                                                                 |
| <b>P264</b>           | Wash thoroughly after handling                                                                                                  |
| <b>P270</b>           | Do not eat, drink or smoke when using this product                                                                              |
| <b>P271</b>           | Use only outdoors or in a well-ventilated area                                                                                  |
| <b>P272</b>           | Contaminated work clothing should not be allowed out of the workplace                                                           |
| <b>P273</b>           | Avoid release to the environment                                                                                                |
| <b>P280</b>           | Wear protective gloves/protective clothing/eye protection/face protection                                                       |
| <b>P301+P310</b>      | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician                                                              |
| <b>P301+P330+P331</b> | IF SWALLOWED: Rinse mouth; Do NOT induce vomiting                                                                               |
| <b>P302+P352</b>      | IF ON SKIN: Wash with plenty of water                                                                                           |
| <b>P303+P361+P353</b> | IF ON SKIN (or hair): Take off immediately all contaminated clothing; Rinse skin with water or shower                           |
| <b>P304+P340</b>      | IF INHALED: Remove person to fresh air and keep comfortable for breathing                                                       |
| <b>P305+P351+P338</b> | IF IN EYES: Rinse cautiously with water for several minutes; Remove contact lenses, if present and easy to do. Continue rinsing |
| <b>P308+P313</b>      | IF exposed or concerned: Get medical advice/attention                                                                           |
| <b>P310</b>           | Immediately call a POISON CENTER or doctor/physician                                                                            |
| <b>P311</b>           | Call a POISON CENTER or doctor/physician                                                                                        |

|                  |                                                                     |
|------------------|---------------------------------------------------------------------|
| <b>P312</b>      | Call a POISON CENTER or doctor/physician if you feel unwell         |
| <b>P321</b>      | Specific treatment                                                  |
| <b>P330</b>      | Rinse mouth                                                         |
| <b>P333+P313</b> | If skin irritation or rash occurs: Get medical advice/attention     |
| <b>P362+P364</b> | Take off contaminated clothing                                      |
| <b>P363</b>      | Wash contaminated clothing before reuse                             |
| <b>P370+P378</b> | In case of fire: Use appropriate media to extinguish                |
| <b>P403+P235</b> | Store in a well-ventilated place: Keep cool                         |
| <b>P403+P233</b> | Store in a well-ventilated place: Keep container tightly closed     |
| <b>P405</b>      | Store locked up                                                     |
| <b>P501</b>      | 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).** <sup>[14][15]</sup>

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 <sub>3</sub> H <sub>5</sub> 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). <sup>[1][2][12]</sup>

#### Skin contact

Remove contaminated clothing. Rinse skin with soap and water (min. 15 minutes). Call a physician immediately. <sup>[1][2][12]</sup>

#### Eye contact

Rinse eyes with running water (min. 15 minutes). Remove contact lenses if possible. If irritation persists — consult an ophthalmologist. <sup>[1][2][12]</sup>

#### Ingestion

Do NOT induce vomiting (unless directed by a physician). Rinse mouth with water. Never give anything by mouth to an unconscious person. Poison Centre Łódź: +48 42 631 47 24 (24/7). Emergency number: 112. <sup>[1][2][12]</sup>

#### Symptoms and effects

nausea, vomiting, diarrhoea; cough, shortness of breath, headache, dizziness; skin redness and irritation. <sup>[3][9]</sup>

#### 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 <sub>2</sub> ), dry chemical powder, water spray/mist. <sup>[1][2][12]</sup> |
| Unsuitable extinguishing media | Full/compact water jet (splashes and spreads the burning liquid, which floats on water). <sup>[1][2][12]</sup>          |
| Specific hazards               | Thermal decomposition products: CO, CO <sub>2</sub> , HCl (hydrogen chloride). <sup>[13]</sup>                          |
| Advice for firefighters        | Use self-contained breathing apparatus (SCBA). Full protective suit. <sup>[1][2][12]</sup>                              |
| Flash Point                    | 31°C <sup>[7]</sup>                                                                                                     |
| Auto-ignition temperature      | 411.1°C <sup>[7]</sup>                                                                                                  |

### 6. Accidental release measures

|                                         |                                                                                                                                                                                                                                                    |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal precautions                    | Use personal protective equipment (see Section 8). Avoid breathing vapours. <sup>[1][2][12]</sup>                                                                                                                                                  |
| Environmental precautions               | Prevent entry into sewers, groundwater and surface water. <sup>[1][2][12]</sup>                                                                                                                                                                    |
| 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. <sup>[1][2][12]</sup> |
| Related sections                        | 8; 13                                                                                                                                                                                                                                              |

## 7. Handling and storage

|                               |                                                                                                                                                                 |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Precautions</b>            | Work in a fume hood or with adequate ventilation. No eating, drinking or smoking in the work area. <a href="#">[1]</a> <a href="#">[2]</a> <a href="#">[12]</a> |
| <b>Storage temperature</b>    | Store at room temperature (15-25°C) or as indicated on the label. <a href="#">[1]</a> <a href="#">[2]</a> <a href="#">[12]</a>                                  |
| <b>Humidity</b>               | Store in a dry place (<60% RH). <a href="#">[1]</a> <a href="#">[2]</a> <a href="#">[12]</a>                                                                    |
| <b>Light</b>                  | Protect from direct sunlight. <a href="#">[1]</a> <a href="#">[2]</a> <a href="#">[12]</a>                                                                      |
| <b>Incompatible materials</b> | Strong oxidizers, Ignition sources, open flames. <a href="#">[13]</a>                                                                                           |

## 8. Exposure controls/personal protection

### 8.1 Control parameters

|                           |                                                                                                                                                    |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>OEL — NDS (Poland)</b> | 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. |
| <b>OEL (EU)</b>           | 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.     |
| <b>DNEL</b>               | No data available.                                                                                                                                 |
| <b>PNEC</b>               | No data available.                                                                                                                                 |

### 8.2 Personal protective equipment (PPE) [\[5\]](#)[\[6\]](#)[\[16\]](#)

|                                                                                                                                                                                                                                                                          |                                                                                                                                                                                |                                                                                                                                                                                                           |                                                                                                                                                     |                                                                                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p><b>Chemical-resistant protective gloves</b><br/>EN ISO 374-1:2016+A1:2018<br/>fluoroelastomer FKM<br/>(Viton), min. 0.4 mm — NOT<br/>nitrile (breakthrough<br/>within minutes)</p> |  <p><b>Closed safety spectacles or goggles</b><br/>EN ISO 16321-1:2022 / EN<br/>166:2001</p> |  <p><b>Respiratory protection</b><br/>EN 14387:2004+A1:2008<br/>type A2-P3 filter (organic<br/>vapours + particles)</p> |  <p><b>Face shield (splash risk)</b><br/>EN ISO 16321-1:2022</p> |  <p><b>Chemical-resistant protective clothing</b><br/>EN 13034:2005+A1:2009 (typ<br/>6) / EN 14126:2003 (bio)</p> |
|  <p><b>Closed safety footwear with toe protection</b><br/>EN ISO 20345:2022 (S2/S3)</p>                                                                                               |                                                                                                                                                                                |                                                                                                                                                                                                           |                                                                                                                                                     |                                                                                                                                                                                                       |

## 9. Physical and chemical properties

| Property (item 9.1)             | Value                                              | Source |
|---------------------------------|----------------------------------------------------|--------|
| <b>Physical state</b>           | Liquid                                             |        |
| <b>Colour</b>                   | No data available.                                 |        |
| <b>Odour</b>                    | No data available.                                 |        |
| <b>pH (1% aqueous solution)</b> | No data available.                                 |        |
| <b>Melting point</b>            | -25.6°C (experimental data) <a href="#">[7]</a>    |        |
| <b>Boiling point</b>            | 116.6885°C <a href="#">[8]</a> <a href="#">[7]</a> |        |
| <b>Flash point</b>              | 31°C (experimental data) <a href="#">[7]</a>       |        |

| Property (item 9.1)                               | Value                                                             | Source |
|---------------------------------------------------|-------------------------------------------------------------------|--------|
| Flammability                                      | Flam. Liq. 3 (H226) <sup>[3][9]</sup>                             |        |
| Lower and upper explosion limit                   | No data available.                                                |        |
| Density (20°C)                                    | 1.18 g/cm <sup>3</sup> <sup>[7]</sup>                             |        |
| Vapour pressure                                   | 1.333 kPa (10 mmHg, 16.6°C)<br>(experimental data) <sup>[7]</sup> |        |
| Relative vapour density                           | 3.19 <sup>[21]</sup>                                              |        |
| Dynamic viscosity                                 | 1.03 mPa·s <sup>[7]</sup>                                         |        |
| Kinematic viscosity                               | No data available.                                                |        |
| Refractive index n <sub>D</sub> <sup>20</sup>     | 1.44195 (experimental data) <sup>[7]</sup>                        |        |
| Auto-ignition temperature                         | 411.1°C (experimental data) <sup>[7]</sup>                        |        |
| Decomposition temperature                         | Not applicable                                                    |        |
| Rozpuszcz. w wodzie                               | 65.9 g/L, 25°C <sup>[7]</sup>                                     |        |
| Particle characteristics                          | Not applicable (REACH 9.1(r))                                     |        |
| Partition coefficient n-octanol/water (log value) | 0.5 <sup>[7]</sup>                                                |        |
| Molar mass                                        | 92.52 g/mol <sup>[7]</sup>                                        |        |
| Molecular formula                                 | C <sub>3</sub> H <sub>5</sub> ClO <sup>[7]</sup>                  |        |
| 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 <sub>2</sub> , HCl (hydrogen chloride). |

## 11. Toxicological information

|                   |                                                                                                                                                            |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LD50 (oral)       | LD50 40 mg/kg (rat, oral) <sup>[7]</sup>                                                                                                                   |
| LD50 (dermal)     | No data available.                                                                                                                                         |
| LC50 (inhalation) | LC50 250 ppm (8 h) (rat) <sup>[7]</sup>                                                                                                                    |
| Skin irritation   | Category 1 (H314) — corrosive; sub-category (1A/1B/1C) per CLP Annex VI entry. <sup>[3][9]</sup>                                                           |
| Eye irritation    | Serious eye damage — covered by the corrosive classification (H314; CLP Annex I 3.3.2.1). <sup>[3][9]</sup>                                                |
| Sensitisation     | Skin, Category 1 (H317): May cause an allergic skin reaction. <sup>[3][9]</sup>                                                                            |
| Mutagenicity      | Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) <sup>[3][9]</sup> |
| Carcinogenicity   | Category 1A/1B (harmonised classification, Annex VI to CLP).                                                                                               |

|                                              |                                                                                                                                                            |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>IARC classification (carcinogenicity)</b> | IARC Group 2A — probably carcinogenic to humans. [local snapshot — not verified against the current IARC list] <sup>[19]</sup>                             |
| <b>Reproductive toxicity</b>                 | Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) <sup>[3][9]</sup> |
| <b>STOT — single exposure</b>                | Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) <sup>[3][9]</sup> |
| <b>STOT — repeated exposure</b>              | Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) <sup>[3][9]</sup> |
| <b>Aspiration hazard</b>                     | Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) <sup>[3][9]</sup> |

## 12. Ecological information

|                                        |                                                                                                                                                                                                                |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Aquatic toxicity</b>                | LC <sub>50</sub> (fish): 10.2 mg/L (Pimephales promelas, 96 h). EC <sub>50</sub> (Daphnia): 40 mg/L (Daphnia magna, 24 h). EC <sub>50</sub> (algae): 13 mg/L (Selenastrum capricornutum, 96 h) <sup>[20]</sup> |
| <b>Persistence / biodegradability</b>  | No data available.                                                                                                                                                                                             |
| <b>Bioaccumulative potential</b>       | log Kow = 0.5 <sup>[7]</sup> . Low bioaccumulation potential (log Kow < 4.5 — PBT/vPvB screening criterion per ECHA Guidance R.11). <sup>[17][18]</sup>                                                        |
| <b>Mobility in soil</b>                | No data available.                                                                                                                                                                                             |
| <b>PBT/vPvB assessment</b>             | Insufficient data to assess PBT/vPvB.                                                                                                                                                                          |
| <b>Endocrine disrupting properties</b> | No information.                                                                                                                                                                                                |

## 13. Disposal considerations

|                         |                                                                                                                                                               |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Disposal method</b>  | Hand over for disposal to licensed contractors in accordance with national and local regulations. Do not discharge into sewers.                               |
| <b>Waste code (EWC)</b> | 16 05 06* — Laboratory and analytical chemicals (np. chemical reagents) zawierające substancje niebezpieczne. EWC code verification required. <sup>[11]</sup> |
| <b>Packaging</b>        | 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

|                               |                                                                                                                                                        |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>UN number</b>              | UN 2023 <sup>[7]</sup>                                                                                                                                 |
| <b>Transport hazard class</b> | Suggested from GHS classification — VERIFICATION REQUIRED.                                                                                             |
| <b>Environmental hazard</b>   | Not classified as environmentally hazardous for transport (no H400/H410/H411 in CLP Annex VI; no marine pollutant mark required) <sup>[3]</sup>        |
| <b>Special precautions</b>    | Handle as dangerous goods according to the assigned class (ADR/IMDG/IATA); apply the precautions appropriate to that class.                            |
| <b>CN/HS code</b>             | CN/HS code: verification required in the Eurostat Combined Nomenclature.                                                                               |
| <b>Notes</b>                  | UN number per the indicated source. Verify the transport class and packing group in ADR Table A / UN Model Regulations before shipment. <sup>[7]</sup> |

## 15. Regulatory information

|                        |                                                                                                                                       |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>SVHC status</b>     | SVHC status not verified against the available dataset — check the current ECHA Candidate List; do not assume absence. <sup>[1]</sup> |
| <b>REACH Annex XIV</b> | Not verified against the ECHA Authorisation List — check REACH Annex XIV. <sup>[1]</sup>                                              |

**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. <sup>[1]</sup>

**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 21.09.2026 were omitted as future (not yet applicable).

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

**Scientific citations (10)**

C. J. Forsyth, T. J. Murray. Via 2-(Chloromethyl)oxirane. Ethers (2008). DOI: 10.1055/sos-sd-037-00411  
 E. Block. 2-(Chloromethyl)oxirane-Related Systems. Sulfur, Selenium, and Tellurium (2008). DOI: 10.1055/sos-sd-039-00776  
 Christian Wohlfarth. Refractive index of 2-(chloromethyl)oxirane. Optical Constants (2017). DOI: 10.1007/978-3-662-49236-9\_91  
 N. Heineking, J.-U. Grabow, I. Merke. Molecular beam Fourier transform microwave spectra of (chloromethyl)cyclopropane and (chloromethyl)oxirane. Journal of Molecular Structure (2002). DOI: 10.1016/s0022-2860(02)00094-7  
 Carboxylic acids as proton-containing nucleophiles in the reaction with (chloromethyl)oxirane. Voprosy Khimii i Khimicheskoi Tekhnologii (2019). DOI: 10.32434/0321-4095-2019-127-6-17-23

**Full text of H statements**

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

**Full text of P statements**

|                       |                                                                                                                                 |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>P201</b>           | Obtain special instructions before use                                                                                          |
| <b>P202</b>           | Do not handle until all safety precautions have been read and understood                                                        |
| <b>P210</b>           | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking                                   |
| <b>P233</b>           | Keep container tightly closed                                                                                                   |
| <b>P240</b>           | Ground and bond container and receiving equipment                                                                               |
| <b>P260</b>           | Do not breathe dust/fume/gas/mist/vapours/spray                                                                                 |
| <b>P264</b>           | Wash thoroughly after handling                                                                                                  |
| <b>P270</b>           | Do not eat, drink or smoke when using this product                                                                              |
| <b>P271</b>           | Use only outdoors or in a well-ventilated area                                                                                  |
| <b>P272</b>           | Contaminated work clothing should not be allowed out of the workplace                                                           |
| <b>P273</b>           | Avoid release to the environment                                                                                                |
| <b>P280</b>           | Wear protective gloves/protective clothing/eye protection/face protection                                                       |
| <b>P301+P310</b>      | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician                                                              |
| <b>P301+P330+P331</b> | IF SWALLOWED: Rinse mouth; Do NOT induce vomiting                                                                               |
| <b>P302+P352</b>      | IF ON SKIN: Wash with plenty of water                                                                                           |
| <b>P303+P361+P353</b> | IF ON SKIN (or hair): Take off immediately all contaminated clothing; Rinse skin with water or shower                           |
| <b>P304+P340</b>      | IF INHALED: Remove person to fresh air and keep comfortable for breathing                                                       |
| <b>P305+P351+P338</b> | IF IN EYES: Rinse cautiously with water for several minutes; Remove contact lenses, if present and easy to do. Continue rinsing |

|                  |                                                                     |
|------------------|---------------------------------------------------------------------|
| <b>P308+P313</b> | IF exposed or concerned: Get medical advice/attention               |
| <b>P310</b>      | Immediately call a POISON CENTER or doctor/physician                |
| <b>P311</b>      | Call a POISON CENTER or doctor/physician                            |
| <b>P312</b>      | Call a POISON CENTER or doctor/physician if you feel unwell         |
| <b>P321</b>      | Specific treatment                                                  |
| <b>P330</b>      | Rinse mouth                                                         |
| <b>P333+P313</b> | If skin irritation or rash occurs: Get medical advice/attention     |
| <b>P362+P364</b> | Take off contaminated clothing                                      |
| <b>P363</b>      | Wash contaminated clothing before reuse                             |
| <b>P370+P378</b> | In case of fire: Use appropriate media to extinguish                |
| <b>P403+P235</b> | Store in a well-ventilated place: Keep cool                         |
| <b>P403+P233</b> | Store in a well-ventilated place: Keep container tightly closed     |
| <b>P405</b>      | Store locked up                                                     |
| <b>P501</b>      | Dispose of contents/container to an approved waste collection point |

## Abbreviations

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

## Version history

|                        |                                                                    |
|------------------------|--------------------------------------------------------------------|
| <b>v1 (21.09.2026)</b> | Based on ECHA harmonised classification (Annex VI to CLP, ATP 23). |
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## External links

NIST: <https://webbook.nist.gov/cgi/cbook.cgi?ID=106-89-8>

ChEMBL: [https://www.ebi.ac.uk/chembl/compound\\_report\\_card/CHEMBL1421613](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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