

# SAFETY DATA SHEET (SDS)

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

Date: 15.07.2026 | Version: 2 | EN

## (2R)-2-amino-3-sulfanylpropanoic acid

(2R)-2-amino-3-sulfanylpropanoic acid

**CAS 52-90-4**

$C_3H_7NO_2S$



MOLAR MASS  
**121.16**

LOGP  
**-2.50**  
(XLogP3,  
PubChem)

### HAZARD CLASSIFICATION (GHS / CLP)



**Warning**

**H302**

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

|                       |                                       |
|-----------------------|---------------------------------------|
| 1.1 Substance name    | —                                     |
| 1.1 IUPAC name        | (2R)-2-amino-3-sulfanylpropanoic acid |
| 1.1 CAS number        | 52-90-4                               |
| 1.1 EC number         | No data                               |
| 1.1 PubChem CID       | 5862                                  |
| 1.1 InChIKey          | XUJNEKJLAYXESH-REOHCLBHSA-N           |
| 1.1 SMILES            | <chem>C([C@@H](C(=O)O)N)S</chem>      |
| 1.1 Molecular formula | $C_3H_7NO_2S$                         |
| 1.1 Molar mass        | 121.16 g/mol                          |
| 1.1 Exact mass        | —                                     |

### 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

Supplier details have not been configured (MOL-GOD → Label generator → Producer details).

### 1.4 Emergency telephone number

**Emergency telephone** +48 42 657 99 00

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

## 2. Hazards identification

GHS:



PPE:



Prohibitions:



**Warning**

### Hazard statements (H)

**H302** Harmful if swallowed

### Precautionary statements (P)

**P261** Avoid breathing dust/fume/gas/mist/vapours/spray

**P264** Wash thoroughly after handling

**P270** Do not eat, drink or smoke when using this product

**P301+P310** IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

**P330** Rinse mouth

**P501** Dispose of contents/container to an approved waste collection point

### 3. Composition/information on ingredients

|                          |                                                 |
|--------------------------|-------------------------------------------------|
| <b>Substance type</b>    | pure substance                                  |
| <b>CAS Number</b>        | 52-90-4                                         |
| <b>Molecular formula</b> | C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> S |
| <b>Concentration</b>     | >=99%                                           |

### 4. First aid measures



#### Inhalation

Move the affected person to fresh air. Keep at rest. If not breathing: artificial respiration (qualified personnel only).

#### Skin contact

Remove contaminated clothing. Rinse skin with soap and water (min. 15 minutes).

#### Eye contact

Rinse eyes with running water (min. 15 minutes). Remove contact lenses if possible. If irritation persists — consult an ophthalmologist.

#### 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 42 657 99 00 (24/7). Emergency number: 112.

#### Symptoms and effects

nausea, vomiting, diarrhoea.

#### Notes for physician

Symptomatic treatment. No specific antidote.

**Emergency numbers: CIT Łódź: +48 42 657 99 00 (24/7) | Emergency: 112**

### 5. Firefighting measures

|                                       |                                                                                           |
|---------------------------------------|-------------------------------------------------------------------------------------------|
| <b>Suitable extinguishing media</b>   | Adapt extinguishing media to surroundings. CO <sub>2</sub> , dry powder, foam.            |
| <b>Unsuitable extinguishing media</b> | No specific restrictions.                                                                 |
| <b>Specific hazards</b>               | Thermal decomposition products: CO, CO <sub>2</sub> , NO <sub>x</sub> , SO <sub>x</sub> . |
| <b>Advice for firefighters</b>        | Use self-contained breathing apparatus (SCBA). Full protective suit.                      |

### 6. Accidental release measures

|                                                |                                                                                                                                      |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <b>Personal precautions</b>                    | Use personal protective equipment (see Section 8). Avoid breathing dust/vapours.                                                     |
| <b>Environmental precautions</b>               | Prevent entry into sewers, groundwater and surface water.                                                                            |
| <b>Methods for containment and cleaning up</b> | Collect mechanically into suitable containers. Absorption: sand, vermiculite, diatomaceous earth. Do not sweep dry (dust formation). |
| <b>Related sections</b>                        | 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. |
| <b>Storage temperature</b> | Store at room temperature (15-25°C) or as indicated on the label.                                  |
| <b>Humidity</b>            | Store in a dry place (<60% RH).                                                                    |
| <b>Light</b>               | Protect from direct sunlight.                                                                      |

## 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)



## 9. Physical and chemical properties

| Property (item 9.1)             | Value                                           | Source        |
|---------------------------------|-------------------------------------------------|---------------|
| <b>Physical state</b>           | Solid                                           |               |
| <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>            | 240°C                                           |               |
| <b>Boiling point</b>            | No data available.                              |               |
| <b>Flash point</b>              | No data available.                              |               |
| <b>Density (20°C)</b>           | No data available.                              |               |
| <b>Vapour pressure (20°C)</b>   | No data available.                              |               |
| <b>Water solubility (20°C)</b>  | No data available.                              |               |
| <b>log Kow (XLogP3)</b>         | -2.5                                            |               |
| <b>TPSA</b>                     | 64.3 Å²                                         | PubChem (NIH) |
| <b>HBD / HBA</b>                | No data available. / No data available.         |               |
| <b>Rotatable bonds</b>          | No data available.                              |               |
| <b>Molar mass</b>               | 121.16 g/mol                                    | PubChem (NIH) |
| <b>Molecular formula</b>        | C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub> S | PubChem (NIH) |

## 10. Stability and reactivity

|                               |                                                                                          |
|-------------------------------|------------------------------------------------------------------------------------------|
| <b>Reactivity</b>             | Stable under normal storage and handling conditions.                                     |
| <b>Chemical stability</b>     | Thermally stable under recommended conditions.                                           |
| <b>Hazardous reactions</b>    | No hazardous reactions known under normal conditions.                                    |
| <b>Conditions to avoid</b>    | High temperatures, direct sunlight, moisture.                                            |
| <b>Incompatible materials</b> | Strong oxidizers, strong bases, Base metals (hydrogen evolution).                        |
| <b>Decomposition products</b> | Thermal decomposition products:CO, CO <sub>2</sub> , NO <sub>x</sub> , SO <sub>x</sub> . |

## 11. Toxicological information

|                                              |                                                                                                                                                   |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>LD50 (oral)</b>                           | No data available.                                                                                                                                |
| <b>LD50 (dermal)</b>                         | No data available.                                                                                                                                |
| <b>LC50 (inhalation)</b>                     | No data available.                                                                                                                                |
| <b>Skin irritation</b>                       | No data available.                                                                                                                                |
| <b>Eye irritation</b>                        | No data available.                                                                                                                                |
| <b>Sensitisation</b>                         | No data available.                                                                                                                                |
| <b>Mutagenicity</b>                          | No data available.                                                                                                                                |
| <b>Carcinogenicity</b>                       | No data available.                                                                                                                                |
| <b>IARC classification (carcinogenicity)</b> | No individual IARC monograph for this CAS — this is not confirmation of the absence of carcinogenicity (cf. CLP/GHS classification in section 2). |
| <b>Reproductive toxicity</b>                 | No data available.                                                                                                                                |
| <b>STOT — single exposure</b>                | No data available.                                                                                                                                |
| <b>STOT — repeated exposure</b>              | No data available.                                                                                                                                |
| <b>Aspiration hazard</b>                     | No data available.                                                                                                                                |

## 12. Ecological information

|                                        |                                             |
|----------------------------------------|---------------------------------------------|
| <b>Aquatic toxicity</b>                | No data available.                          |
| <b>Persistence / biodegradability</b>  | No data available.                          |
| <b>Bioaccumulative potential</b>       | LogP = -2.5. Low bioaccumulation potential. |
| <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 (e.g. chemical reagents) containing hazardous substances. Verification of the EWC code required. |
| <b>Packaging</b>        | Cleaned packaging may be recycled. Contaminated packaging must be treated as hazardous waste.                                                    |

## 14. Transport information

|                             |                                                                                 |
|-----------------------------|---------------------------------------------------------------------------------|
| <b>UN number</b>            | VERIFICATION REQUIRED — no verified UN assignment.                              |
| <b>Environmental hazard</b> | No environmental hazard indicated by GHS classification. Verification required. |
| <b>Special precautions</b>  | Verification required.                                                          |
| <b>CN/HS code</b>           | CN/HS code: verification required in the Eurostat Combined Nomenclature.        |

## 15. Regulatory information

|                          |                                                                                                                                                              |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SVHC status</b>       | SVHC status not verified against the full ECHA Candidate List (verification required) — check the ECHA Candidate List                                        |
| <b>REACH Annex XIV</b>   | Not verified against the ECHA Authorisation List — check REACH Annex XIV.                                                                                    |
| <b>REACH Annex XVII</b>  | Not confirmed in the available Annex XVII dataset — verify against the current ECHA list before placing on the market; do not assume absence of restriction. |
| <b>Verification date</b> | 2026-07-15                                                                                                                                                   |

## 16. Other information

Legal status of the harmonised classification: CLP — Regulation (EC) No 1272/2008, Annex VI (current ECHA harmonised inventory, as at the issue date of this sheet). Entries entering into force after 15.07.2026 were omitted as future (not yet applicable).

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

### Full text of H statements

|             |                      |
|-------------|----------------------|
| <b>H302</b> | Harmful if swallowed |
|-------------|----------------------|

### Full text of P statements

|                  |                                                                     |
|------------------|---------------------------------------------------------------------|
| <b>P261</b>      | Avoid breathing 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>P301+P310</b> | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  |
| <b>P330</b>      | Rinse mouth                                                         |
| <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>v2 (15.07.2026)</b> | Prepared on the basis of the ECHA harmonised classification (Annex VI to CLP, ATP 23). |
|------------------------|----------------------------------------------------------------------------------------|

#### References

- [1] EP and Council. Reg.(EC) No 1907/2006 (REACH). Art.31, Annex II. OJ EU L 396/2006.
- [2] European Commission. Reg.(EU) 2020/878 — amending Annex II REACH. OJ EU L 203/2020. From 01.01.2023.
- [3] EP and Council. Reg.(EC) 1272/2008 (CLP) + ATP 23. OJ EU L 353/2008.
- [4] United Nations. GHS Rev.9. ST/SG/AC.10/30/Rev.9. ONZ, 2021.
- [5] ISO. ISO 7010:2019 — Graphical symbols. Safety signs.
- [6] ISO. ISO 3864-1:2011 — Safety colours and safety signs.
- [7] Act of 26.06.1974 — Labour Code (Poland). Art.221-229. Journal of Laws 2023 item 1465.
- [8] MRiPS Regulation of 12.06.2018 — NDS/NDN. Journal of Laws 2024 item 1017.

#### External links

NIST: <https://webbook.nist.gov/cgi/cbook.cgi?ID=52-90-4>  
 ChEMBL: [https://www.ebi.ac.uk/chembl/compound\\_report\\_card/CHEMBL863](https://www.ebi.ac.uk/chembl/compound_report_card/CHEMBL863)

**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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**Generator:** Document prepared automatically on the basis of the ECHA harmonised classification (Annex VI to CLP, ATP 23) and public physico-chemical databases.

**Author:** [www.MolGod.org](http://www.MolGod.org) — automated safety data sheet (SDS) platform.

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