

# SAFETY DATA SHEET (SDS)

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

Date: 31.07.2026 | Version: 6 | EN

## silicon dioxide

dioxosilane

CAS 7631-86-9

O<sub>2</sub>Si

EC 231-545-4



MOLAR MASS

60.08

### HAZARD CLASSIFICATION (GHS / CLP)



Danger

H319 H335 H350 H372 H341

Non-harmonised classification (no entry in Annex VI to CLP) — assigned from aggregated ECHA C&L notifications; the H-statements require verification against the official source (ECHA C&L / manufacturer's data sheet).

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

|                       |                                  |
|-----------------------|----------------------------------|
| 1.1 Substance name    | silicon dioxide                  |
| 1.1 IUPAC name        | dioxosilane                      |
| 1.1 CAS number        | 7631-86-9                        |
| 1.1 EC number         | 231-545-4                        |
| 1.1 PubChem CID       | 24261                            |
| 1.1 InChIKey          | VYPSYNLAJGMNEJ-UHFFFAOYSA-N      |
| 1.1 SMILES            | O=[Si]=O                         |
| 1.1 Molecular formula | O <sub>2</sub> Si <sup>[7]</sup> |
| 1.1 Molar mass        | 60.084 g/mol <sup>[7]</sup>      |
| 1.1 Exact mass        | 59.9668 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

|              |                                               |
|--------------|-----------------------------------------------|
| Name         | ADVANCED CHEMISTRY R&D SOLUTIONS              |
| Address      | ul. Juliana Przybosia 8, 21-400 Łuków, Poland |
| Tax ID (NIP) |                                               |
| Tel.         |                                               |
| E-mail       |                                               |
| Website      |                                               |

## 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) <sup>[3][4]</sup>

|             |                                                                |
|-------------|----------------------------------------------------------------|
| <b>H319</b> | Causes serious eye irritation                                  |
| <b>H335</b> | May cause respiratory irritation                               |
| <b>H350</b> | May cause cancer                                               |
| <b>H372</b> | Causes damage to organs through prolonged or repeated exposure |
| <b>H341</b> | Suspected of causing genetic defects                           |

### Precautionary statements (P) <sup>[3][4]</sup>

|                       |                                                                                                                                 |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>P201</b>           | Obtain special instructions before use                                                                                          |
| <b>P260</b>           | Do not breathe dust/fume/gas/mist/vapours/spray                                                                                 |
| <b>P264</b>           | Wash thoroughly after handling                                                                                                  |
| <b>P271</b>           | Use only outdoors or in a well-ventilated area                                                                                  |
| <b>P280</b>           | Wear protective gloves/protective clothing/eye protection/face protection                                                       |
| <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>P314</b>           | Get medical advice/attention if you feel unwell                                                                                 |
| <b>P337+P313</b>      | If eye irritation persists: Get medical advice/attention                                                                        |
| <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                                                             |

**Non-harmonised classification (no entry in Annex VI to CLP) — assigned from aggregated ECHA C&L notifications; the H-statements require verification against the official source (ECHA C&L / manufacturer's data sheet).**

### 3. Composition/information on ingredients

|                   |                                                                                       |
|-------------------|---------------------------------------------------------------------------------------|
| Substance type    | pure substance                                                                        |
| CAS Number        | 7631-86-9                                                                             |
| EC number         | 231-545-4                                                                             |
| Molecular formula | O <sub>2</sub> Si                                                                     |
| Concentration     | ≥99% (typical reagent-grade purity — to be confirmed by the supplier's specification) |

### 4. First aid measures



#### Inhalation

Move the affected person to fresh air. Keep at rest. If not breathing: artificial respiration (qualified personnel only). [\[1\]](#)[\[2\]](#)[\[9\]](#)

#### Skin contact

Remove contaminated clothing. Rinse skin with soap and water (min. 15 minutes). [\[1\]](#)[\[2\]](#)[\[9\]](#)

#### Eye contact

Rinse eyes with running water (min. 15 minutes). Remove contact lenses if possible. If irritation persists — consult an ophthalmologist. [\[1\]](#)[\[2\]](#)[\[9\]](#)

#### 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. [\[1\]](#)[\[2\]](#)[\[9\]](#)

#### Symptoms and effects

cough, shortness of breath, headache, dizziness; eye irritation and watering. [\[3\]](#)

#### Notes for physician

Requires verification

**Emergency numbers: CIT Łódź: +48 42 631 47 24 (24/7) | Emergency: 112**

### 5. Firefighting measures

|                                |                                                                                |
|--------------------------------|--------------------------------------------------------------------------------|
| Suitable extinguishing media   | Adapt extinguishing media to surroundings. CO <sub>2</sub> , dry powder, foam. |
| Unsuitable extinguishing media | No specific restrictions.                                                      |
| Specific hazards               | No data on decomposition products. <a href="#">[10]</a>                        |
| Advice for firefighters        | Use self-contained breathing apparatus (SCBA). Full protective suit.           |

### 6. Accidental release measures

|                                         |                                                                                                                                                                                                  |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal precautions                    | Use personal protective equipment (see Section 8). Avoid breathing dust. <a href="#">[1]</a> <a href="#">[2]</a> <a href="#">[9]</a>                                                             |
| Environmental precautions               | Prevent entry into sewers, groundwater and surface water. <a href="#">[1]</a> <a href="#">[2]</a> <a href="#">[9]</a>                                                                            |
| Methods for containment and cleaning up | Collect mechanically into suitable containers. Absorption: sand, vermiculite, diatomaceous earth. Do not sweep dry (dust formation). <a href="#">[1]</a> <a href="#">[2]</a> <a href="#">[9]</a> |
| 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. <a href="#">[1]</a> <a href="#">[2]</a> <a href="#">[9]</a> |
| Storage temperature | Store at room temperature (15-25°C) or as indicated on the label. <a href="#">[1]</a> <a href="#">[2]</a> <a href="#">[9]</a>                                  |
| Humidity            | Store in a dry place (<60% RH). <a href="#">[1]</a> <a href="#">[2]</a> <a href="#">[9]</a>                                                                    |

|                        |                                                               |
|------------------------|---------------------------------------------------------------|
| Light                  | Protect from direct sunlight. <sup>[1][2][9]</sup>            |
| Incompatible materials | Strong oxidizers, strong acids, strong bases. <sup>[10]</sup> |

## 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) <sup>[5][6][13]</sup>

|                                                                                                                                                                                               |                                                                                                                                                                           |                                                                                                                                                                                                                                        |                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p><b>Chemical-resistant protective gloves</b><br/>EN ISO 374-1:2016+A1:2018<br/>nitrile (min. 0.11 mm)</p> |  <p><b>Closed safety spectacles or goggles</b><br/>EN ISO 16321-1:2022 / EN 166:2001</p> |  <p><b>Respiratory protection</b><br/>EN 14387:2004+A1:2008<br/>gas/vapour filter per EN 14387 (select type B/E/K per substance nature) — NOT FFP</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 |
|---------------------------------|--------------------------------------------------------|--------|
| Physical state                  | Solid                                                  |        |
| Colour                          | Amorphous powder <sup>[7]</sup>                        |        |
| Odour                           | Odorless <sup>[7]</sup>                                |        |
| pH (1% aqueous solution)        | No data available.                                     |        |
| Melting point                   | 1710°C <sup>[7][17]</sup>                              |        |
| Boiling point                   | 2230°C <sup>[7][17]</sup>                              |        |
| Flash point                     | Not applicable (REACH 9.1(h))                          |        |
| Flammability                    | No data available.                                     |        |
| Lower and upper explosion limit | Not applicable (REACH 9.1(g))                          |        |
| Density (20°C)                  | 2.2 g/cm <sup>3</sup> <sup>[7][18]</sup>               |        |
| Vapour pressure                 | 1.333 kPa (10 mmHg) (experimental data) <sup>[7]</sup> |        |
| Relative vapour density         | Not applicable (REACH 9.1(q))                          |        |
| Kinematic viscosity             | Not applicable (REACH 9.1(l))                          |        |
| Auto-ignition temperature       | No data available.                                     |        |
| Decomposition temperature       | Not applicable                                         |        |
| Rozpuszcz. w wodzie             | Practically insoluble in water. <sup>[7]</sup>         |        |

| Property (item 9.1)             | Value                                                                                                                                                                | Source |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>Particle characteristics</b> | The particle size distribution has not been determined for this commercial form – required under Annex II 9.1(r); to be completed from the supplier's specification. |        |
| <b>log Kow (XLogP3)</b>         | No data available.                                                                                                                                                   |        |
| <b>Molar mass</b>               | 60.084 g/mol <sup>[7]</sup>                                                                                                                                          |        |
| <b>Molecular formula</b>        | O <sub>2</sub> Si <sup>[7]</sup>                                                                                                                                     |        |

## 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 acids, strong bases.         |
| <b>Decomposition products</b> | No data on decomposition products.                    |

## 11. Toxicological information

|                                              |                                                                                                                                                    |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>LD50 (oral)</b>                           | LD50 >22500 mg/kg (rat, oral) <sup>[7]</sup>                                                                                                       |
| <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>                        | Category 2 — eye irritation.                                                                                                                       |
| <b>Sensitisation</b>                         | No data available.                                                                                                                                 |
| <b>Mutagenicity</b>                          | Classification from aggregated ECHA C&L notifications (non-harmonised) — requires verification; no entry in Annex VI to CLP.                       |
| <b>Carcinogenicity</b>                       | Classification from aggregated ECHA C&L notifications (non-harmonised) — requires verification; no entry in Annex VI to CLP.                       |
| <b>IARC classification (carcinogenicity)</b> | IARC Group 3 — not classifiable as to its carcinogenicity to humans. [local snapshot — not verified against the current IARC list] <sup>[14]</sup> |
| <b>Reproductive toxicity</b>                 | No data available.                                                                                                                                 |
| <b>STOT — single exposure</b>                | Category 3 (H335): May cause respiratory irritation. <sup>[3]</sup>                                                                                |
| <b>STOT — repeated exposure</b>              | Category 1 (H372): Causes damage to organs through prolonged or repeated exposure. <sup>[3]</sup>                                                  |
| <b>Aspiration hazard</b>                     | No data available.                                                                                                                                 |

## 12. Ecological information

|                                                        |                                                                                                                                                                                                                                                                                                      |
|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Aquatic toxicity</b>                                | EC <sub>50</sub> (Daphnia): 900 mg/L (Daphnia magna, 24 h). EC <sub>50</sub> (algae): 25.7 mg/L (Raphidocelis subcapitata, 48 h) <sup>[16]</sup>                                                                                                                                                     |
| <b>Persistence / biodegradability</b>                  | No data available.                                                                                                                                                                                                                                                                                   |
| <b>Bioaccumulative potential</b>                       | No data available.                                                                                                                                                                                                                                                                                   |
| <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.                                                                                                                                                                                                                                                                                      |
| <b>Badania przesiewowe bioaktywności (EPA CompTox)</b> | Substance tested in 6/583 bioactivity assays under the EPA ToxCast/Tox21 program (high-throughput screening, multiple unrelated biological targets). This count reflects testing coverage only — it does NOT constitute a finding of endocrine, toxic, or other biological activity. <sup>[15]</sup> |

## 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>[8]</sup> |
| <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> | Environmental hazard for transport: not verified. Non-harmonised classification (outside CLP Annex VI) — verify aquatic toxicity (Section 12) and do NOT assume marine pollutant marking is not required; confirm per ADR 2.2.9 / IMDG before shipping. |
| <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>                | Transport classification not verified. Do not assume the absence of restrictions — check ADR/IMDG/IATA before shipping.                                                                                                                                 |

## 15. Regulatory information

|                                              |                                                                                                                                                                             |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SVHC status</b>                           | Nie figuruje na liście kandydackiej SVHC REACH (art. 59) — stan listy ECHA: 2026-05-23. [PL] <sup>[1]</sup>                                                                 |
| <b>REACH Annex XIV</b>                       | Nie figuruje w Załączniku XIV REACH (lista autoryzacyjna) — stan listy ECHA: 2025-09-13. [PL] <sup>[1]</sup>                                                                |
| <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. <sup>[1]</sup> |
| <b>Verification date</b>                     | 2026-07-31                                                                                                                                                                  |
| <b>IARC classification (carcinogenicity)</b> | IARC Group 3 — not classifiable as to its carcinogenicity to humans.                                                                                                        |

## 16. Other information

Legal status of classification: supplier self-classification under Art. 4(3) CLP — no harmonised entry in Annex VI. Entries with an entry-into-force date after 31.07.2026 were omitted as future (not yet applicable).

## Full text of H statements

|             |                                                                |
|-------------|----------------------------------------------------------------|
| <b>H319</b> | Causes serious eye irritation                                  |
| <b>H335</b> | May cause respiratory irritation                               |
| <b>H350</b> | May cause cancer                                               |
| <b>H372</b> | Causes damage to organs through prolonged or repeated exposure |
| <b>H341</b> | Suspected of causing genetic defects                           |

## Full text of P statements

|                       |                                                                                                                                 |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>P201</b>           | Obtain special instructions before use                                                                                          |
| <b>P260</b>           | Do not breathe dust/fume/gas/mist/vapours/spray                                                                                 |
| <b>P264</b>           | Wash thoroughly after handling                                                                                                  |
| <b>P271</b>           | Use only outdoors or in a well-ventilated area                                                                                  |
| <b>P280</b>           | Wear protective gloves/protective clothing/eye protection/face protection                                                       |
| <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>P314</b>           | Get medical advice/attention if you feel unwell                                                                                 |
| <b>P337+P313</b>      | If eye irritation persists: Get medical advice/attention                                                                        |
| <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>v6 (31.07.2026)</b> | Based on supplier self-classification (ECHA C&L notifications; no harmonised entry in Annex VI). |
|------------------------|--------------------------------------------------------------------------------------------------|

### References

- [1] EP and Council. Reg.(EC) No 1907/2006 (REACH). Art.31, Annex II. OJ EU L 396/2006. URL: <https://eur-lex.europa.eu/eli/reg/2006/1907/oj> Accessed: 2026-07-31.
- [2] European Commission. Reg.(EU) 2020/878 — amending Annex II REACH. OJ EU L 203/2020. From 01.01.2023. URL: <https://eur-lex.europa.eu/eli/reg/2020/878/oj> Accessed: 2026-07-31.
- [3] EP and Council. Reg.(EC) 1272/2008 (CLP) + ATP 23. OJ EU L 353/2008. URL: <https://eur-lex.europa.eu/eli/reg/2008/1272/oj> Accessed: 2026-07-31.
- [4] United Nations. GHS Rev.9. ST/SG/AC.10/30/Rev.9. New York and Geneva: United Nations, 2021. URL: <https://unece.org/transport/dangerous-goods/ghs-rev9-2021> Accessed: 2026-07-31.
- [5] ISO. ISO 7010:2019 — Graphical symbols. Safety signs. URL: <https://www.iso.org/standard/72424.html> Accessed: 2026-07-31.
- [6] ISO. ISO 3864-1:2011 — Safety colours and safety signs. URL: <https://www.iso.org/standard/51021.html> Accessed: 2026-07-31.
- [7] PubChem. National Center for Biotechnology Information (NIH/NLM), chemical compound database. URL: <https://pubchem.ncbi.nlm.nih.gov/compound/24261>
- [8] 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>
- [9] European Chemicals Agency (ECHA). Guidance on the Compilation of Safety Data Sheets. Version 4.0. Helsinki: European Chemicals Agency, 2020. URL: [https://echa.europa.eu/documents/10162/2324906/sds\\_en.pdf](https://echa.europa.eu/documents/10162/2324906/sds_en.pdf)
- [10] Urban, P.G., ed. Bretherick's Handbook of Reactive Chemical Hazards. 8th ed. Oxford: Academic Press.
- [11] Act of 26 June 1974 — Labour Code (Poland), Art. 176 § 1. Journal of Laws 2023 item 1465. URL: <https://isap.sejm.gov.pl>
- [12] 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>
- [13] CEN. Personal protective equipment standards (EN ISO 374-1, EN 166, EN 149, EN 14387, EN ISO 20345). Brussels: European Committee for Standardization.
- [14] IARC. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Lyon: International Agency for Research on Cancer. URL: <https://monographs.iarc.who.int>
- [15] U.S. EPA. CompTox Chemicals Dashboard — ToxCast/Tox21 high-throughput screening bioactivity summary (testing coverage, not a hazard finding). Washington, DC: U.S. Environmental Protection Agency. URL: <https://comptox.epa.gov/dashboard/chemical/details/DTXSID1029677>
- [16] U.S. EPA. ECOTOX Knowledgebase. Washington, DC: U.S. Environmental Protection Agency. URL: <https://cfpub.epa.gov/ecotox/>
- [17] NLM. Hazardous Substances Data Bank (HSDB). National Library of Medicine. URL: <https://www.nlm.nih.gov>
- [18] O'Neil, M.J., ed. The Merck Index: An Encyclopedia of Chemicals, Drugs, and Biologicals. 15th ed. Cambridge: Royal Society of Chemistry, 2013.
- [19] MRIPS Regulation of 12.06.2018 — NDS/NDN. Journal of Laws 2024 item 1017. URL: <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20240001017> Accessed: 2026-07-31.

### External links

NIST: <https://webbook.nist.gov/cgi/cbook.cgi?ID=7631-86-9>

**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 generated automatically from supplier self-classification (ECHA C&L notifications) and public physicochemical databases.

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

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