# SAFETY DATA SHEET (SDS)

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

Date: 21.10.2026 | Version: 4 | EN

## vinyl acetate

*ethenyl acetate*

**CAS 108-05-4**

$C_4H_6O_2$ | EC 203-545-4

| MOLAR MASS | LOGP |
|---|---|
| 86.09 | 0.7 |

### HAZARD CLASSIFICATION (GHS / CLP)



**Danger**

H225 | H351 | H332 | H335

*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** | vinyl acetate |
| **1.1 IUPAC name** | ethenyl acetate |
| **1.1 CAS number** | 108-05-4 |
| **1.1 EC number** | 203-545-4 |
| **1.1 PubChem CID** | 7904 |
| **1.1 InChIKey** | XTXRWKRVRITETP-UHFFFAOYSA-N |
| **1.1 SMILES** | CC(=O)OC=C |
| **1.1 Molecular formula** | $C_4H_6O_2$ [7] |
| **1.1 Molar mass** | 86.09 g/mol [7] |
| **1.1 Exact mass** | 86.0368 Da [7] |

### 1.2 Uses

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

### 1.3 Details of the supplier

| | |
|---|---|
| REFERENCE COPY — NO SUPPLIER DETAILS — NOT FOR DISTRIBUTION | Supplier details are not included in this reference copy. The supplier placing the substance on the market must complete this section and remains responsible for the sheet under REACH. MolGod.org prepares documentation and is not the supplier of this substance. |

### 1.4 Emergency telephone number

| | |
|---|---|
| **Emergency telephone** | 112 (EU-wide emergency number) |

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

## 2. Hazards identification

**GHS:**



**PPE:**



**Prohibitions:**



**Danger**

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

| | |
|---|---|
| **H225** | Highly flammable liquid and vapour |
| **H351** | Suspected of causing cancer |
| **H332** | Harmful if inhaled |
| **H335** | May cause respiratory irritation |

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

| | |
|---|---|
| **P201** | Obtain special instructions before use |
| **P202** | Do not handle until all safety precautions have been read and understood |
| **P210** | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking |
| **P233** | Keep container tightly closed |
| **P240** | Ground and bond container and receiving equipment |
| **P261** | Avoid breathing dust/fume/gas/mist/vapours/spray |
| **P271** | Use only outdoors or in a well-ventilated area |
| **P280** | Wear protective gloves/protective clothing/eye protection/face protection |
| **P303+P361+P353** | IF ON SKIN (or hair): Take off immediately all contaminated clothing; Rinse skin with water or shower |
| **P304+P340** | IF INHALED: Remove person to fresh air and keep comfortable for breathing |
| **P308+P313** | IF exposed or concerned: Get medical advice/attention |
| **P312** | Call a POISON CENTER or doctor/physician if you feel unwell |
| **P370+P378** | In case of fire: Use appropriate media to extinguish |
| **P403+P235** | Store in a well-ventilated place: Keep cool |
| **P403+P233** | Store in a well-ventilated place: Keep container tightly closed |
| **P405** | Store locked up |
| **P501** | Dispose of contents/container to an approved waste collection point |

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

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**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** | 108-05-4 |
| **EC number** | 203-545-4 |
| **Molecular formula** | $C_4H_6O_2$ |
| **Concentration** | ≥99% (typical reagent-grade purity — to be confirmed by the supplier's specification) |
| **Clp index no** | 607-023-00-0 |

## 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][13]

### Skin contact

Remove contaminated clothing. Rinse skin with soap and water (min. 15 minutes). [1][2][13]

### Eye contact

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

### Ingestion

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

### Symptoms and effects

cough, shortness of breath, headache, dizziness. [3][10]

### Notes for physician

Requires verification

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

## 5. Firefighting measures

| | |
|---|---|
| **Suitable extinguishing media** | Alcohol-resistant foam, carbon dioxide ($CO_2$), dry chemical powder, water spray/mist. [1][2][13] |
| **Unsuitable extinguishing media** | Full/compact water jet (splashes and spreads the burning liquid, which floats on water). [1][2][13] |
| **Specific hazards** | Thermal decomposition products: CO, CO2. [14] |
| **Advice for firefighters** | Use self-contained breathing apparatus (SCBA). Full protective suit. [1][2][13] |
| **Flash Point** | -8°C [7] |
| **Auto-ignition temperature** | 402.2°C [7] |

## 6. Accidental release measures

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

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## 7. Handling and storage

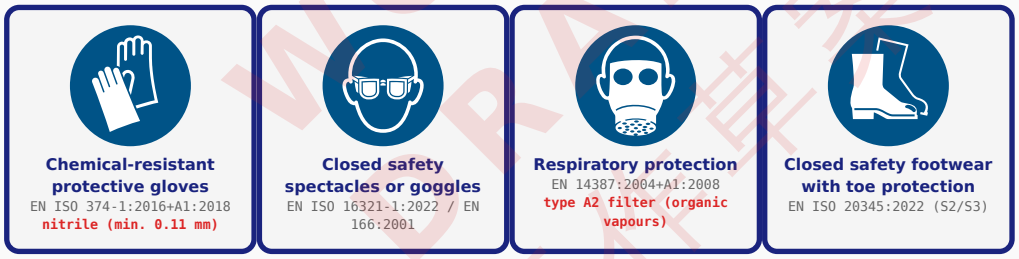
| | |
|---|---|
| **Precautions** | Work in a fume hood or with adequate ventilation. No eating, drinking or smoking in the work area. [1][2][13] |
| **Storage temperature** | Store at room temperature (15-25°C) or as indicated on the label. [1][2][13] |
| **Humidity** | Store in a dry place (<60% RH).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

## 8. Exposure controls/personal protection

### 8.1 Control parameters

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

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




## 9. Physical and chemical properties

| Property (item 9.1) | Value | Source |
|---|---|---|
| **Physical state** | Liquid | |
| **Colour** | Colorless, mobile liquid [7] | |
| **Odour** | An initially pleasant odor which quickly becomes sharp and irritating; not unpleasant, sweetish smell in small quantities [7] | |
| **pH (1% aqueous solution)** | No data available. | |
| **Melting point** | -97.9115°C [8] [7] | |
| **Boiling point** | 72.6654°C [8] [7] | |
| **Flash point** | -8°C (experimental data) [7] | |
| **Flammability** | Flam. Liq. 2 (H225) [3][10] | |
| **Lower and upper explosion limit** | No data available. | |
| **Density (20°C)** | 0.931 g/cm³ [7] | |

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| Property (item 9.1) | Value | Source |
|---|---|---|
| **Vapour pressure** | 12.026 kPa (90.2 mmHg, 20°C) (experimental data) [7] | |
| **Relative vapour density** | 2.97 [22] | |
| **Dynamic viscosity** | 0.43 mPa·s [7] | |
| **Kinematic viscosity** | No data available. | |
| **Refractive index nD²⁰** | 1.3926 (experimental data) [7] | |
| **Auto-ignition temperature** | 402.2°C (experimental data) [7] | |
| **Decomposition temperature** | Not applicable | |
| **Water solubility** | No data available. | |
| **Particle characteristics** | Not applicable (REACH 9.1(r)) | |
| **Partition coefficient n-octanol/water (log value)** | 0.7 [9] | |
| **Molar mass** | 86.09 g/mol [7] | |
| **Molecular formula** | $C_4H_6O_2$ [7] | |
| **Lipinski rule (RO5)** | PASS | |

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

## 10. Stability and reactivity

| | |
|---|---|
| **Reactivity** | Reactive monomer — may undergo hazardous polymerisation (see below). [14] |
| **Chemical stability** | Monomer capable of exothermic autopolymerisation; requires an inhibitor (stabiliser). Depletion of the inhibitor, heating or contamination may initiate violent polymerisation. [14] |
| **Hazardous reactions** | Hazardous polymerisation: a violent, exothermic polymerisation reaction is possible, with a pressure rise and a risk of container rupture. Initiated by heat, light, peroxides, oxidisers or loss of the inhibitor. [14] |
| **Conditions to avoid** | Heating, UV light, loss of the inhibitor, contact with oxidisers/peroxides/ radical initiators. [14] |
| **Incompatible materials** | Strong oxidizers, Ignition sources, open flames. |
| **Decomposition products** | Thermal decomposition products: CO, CO2. |

## 11. Toxicological information

| | |
|---|---|
| **LD50 (oral)** | No data available. |
| **LD50 (dermal)** | No data available. |
| **LC50 (inhalation)** | LC50 3680 ppm (4 h) (rat) [7] |
| **Skin irritation** | Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) [3][10] |
| **Eye irritation** | Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) [3][10] |
| **Sensitisation** | Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) [3][10] |
| **Mutagenicity** | Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) [3][10] |
| **Carcinogenicity** | Category 2 (harmonised classification, Annex VI to CLP). |

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| | |
|---|---|
| **IARC classification (carcinogenicity)** | IARC Group 2B — possibly carcinogenic to humans. [local snapshot — not verified against the current IARC list] [20] |
| **Reproductive toxicity** | Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) [3][10] |
| **STOT — single exposure** | Category 3 (H335): May cause respiratory irritation. [3][10] |
| **STOT — repeated exposure** | Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) [3][10] |
| **Aspiration hazard** | Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) [3][10] |

## 12. Ecological information

| | |
|---|---|
| **Aquatic toxicity** | $LC_{50}$ (fish): 14 mg/L (Pimephales promelas, 96 h). $EC_{50}$ (Daphnia): 52 mg/L (Daphnia magna, 24 h) [21] |
| **Persistence / biodegradability** | No data available. |
| **Bioaccumulative potential** | log Kow = 0.7 [9]. Low bioaccumulation potential (log Kow < 4.5 — PBT/vPvB screening criterion per ECHA Guidance R.11). [18][19] |
| **Mobility in soil** | No data available. |
| **PBT/vPvB assessment** | Insufficient data to assess PBT/vPvB. |
| **Endocrine disrupting properties** | No information. |

## 13. Disposal considerations

| | |
|---|---|
| **Disposal method** | Hand over for disposal to licensed contractors in accordance with national and local regulations. Do not discharge into sewers. |
| **Waste code (EWC)** | 16 05 06* — Laboratory and analytical chemicals (e.g. chemical reagents) containing hazardous substances. Verification of the EWC code required. [12] |
| **Packaging** | Cleaned packaging may be recycled. Contaminated packaging must be treated as hazardous waste. |

## 14. Transport information




Class 3 — Flammable liquids

| | |
|---|---|
| **UN number** | UN 1301 [7] |
| **Transport hazard class** | Suggested from GHS classification — VERIFICATION REQUIRED. |
| **Environmental hazard** | Not classified as environmentally hazardous for transport (no H400/H410/H411 in CLP Annex VI; no marine pollutant mark required) [3] |
| **Special precautions** | Handle as dangerous goods according to the assigned class (ADR/IMDG/IATA); apply the precautions appropriate to that class. |
| **CN/HS code** | CN/HS code: verification required in the Eurostat Combined Nomenclature. |
| **Notes** | UN number per the indicated source. Verify the transport class and packing group in ADR Table A / UN Model Regulations before shipment. [7] |

## 15. Regulatory information

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

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| | |
|---|---|
| **IARC classification (carcinogenicity)** | IARC Group 2B — possibly 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 21.10.2026 were omitted as future (not yet applicable).

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

### Scientific citations (4)


Li K, Ricker K, Tsai FC et al.. *Carcinogenicity of vinyl acetate: evidence from multiple data streams.*. Environmental health : a global access science source (2025). DOI: 10.1186/s12940-025-01218-y

Hayashi H, Naiki Y, Murakami M et al.. *Effects of cleaning sports mouthguards with ethylene-vinyl acetate on oral bacteria.*. PeerJ (2022). DOI: 10.7717/peerj.14480

Hsiao YC, Liu CW, Hoffman G et al.. *Molecular Dosimetry of DNA Adducts in Rats Exposed to Vinyl Acetate Monomer.*. Toxicological sciences : an official journal of the Society of Toxicology (2022). DOI: 10.1093/toxsci/kfab140

*Vinyl acetate.*. IARC monographs on the evaluation of carcinogenic risks to humans (1995).


### Full text of H statements

| | |
|---|---|
| **H225** | Highly flammable liquid and vapour |
| **H351** | Suspected of causing cancer |
| **H332** | Harmful if inhaled |
| **H335** | May cause respiratory irritation |

### Full text of P statements

| | |
|---|---|
| **P201** | Obtain special instructions before use |
| **P202** | Do not handle until all safety precautions have been read and understood |
| **P210** | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking |
| **P233** | Keep container tightly closed |
| **P240** | Ground and bond container and receiving equipment |
| **P261** | Avoid breathing dust/fume/gas/mist/vapours/spray |
| **P271** | Use only outdoors or in a well-ventilated area |
| **P280** | Wear protective gloves/protective clothing/eye protection/face protection |
| **P303+P361+P353** | IF ON SKIN (or hair): Take off immediately all contaminated clothing; Rinse skin with water or shower |
| **P304+P340** | IF INHALED: Remove person to fresh air and keep comfortable for breathing |
| **P308+P313** | IF exposed or concerned: Get medical advice/attention |
| **P312** | Call a POISON CENTER or doctor/physician if you feel unwell |
| **P370+P378** | In case of fire: Use appropriate media to extinguish |
| **P403+P235** | Store in a well-ventilated place: Keep cool |
| **P403+P233** | Store in a well-ventilated place: Keep container tightly closed |
| **P405** | Store locked up |
| **P501** | Dispose of contents/container to an approved waste collection point |

### Abbreviations

| | |
|---|---|
| **ADR** | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| **ATE** | Acute Toxicity Estimate |
| **CAS** | Chemical Abstracts Service |
| **CLP** | Classification, Labelling and Packaging (Reg. (EC) 1272/2008) |
| **CMR** | Carcinogenic, Mutagenic, toxic to Reproduction |

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| | |
|---|---|
| **DNEL** | Derived No-Effect Level |
| **EC** | European Community number |
| **EPI** | Personal protective equipment |
| **GHS** | Globally Harmonized System |
| **IATA** | International Air Transport Association |
| **IMDG** | International Maritime Dangerous Goods Code |
| **SDS** | Safety Data Sheet |
| **LC50** | Lethal Concentration, 50% |
| **LD50** | Lethal Dose, 50% |
| **NDS** | Maximum admissible concentration (workplace, PL) |
| **NDSCh** | Short-term exposure limit (PL) |
| **OEL** | Occupational Exposure Limit |
| **PBT** | Persistent, Bioaccumulative and Toxic |
| **PNEC** | Predicted No-Effect Concentration |
| **REACH** | Registration, Evaluation, Authorisation and Restriction of Chemicals (Reg. (EC) 1907/2006) |
| **STOT** | Specific Target Organ Toxicity |
| **SVHC** | Substance of Very High Concern |
| **TPSA** | Topological Polar Surface Area |
| **vPvB** | very Persistent and very Bioaccumulative |

## Version history

| | |
|---|---|
| **v4 (21.10.2026)** | Based on 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. URL: https://eur-lex.europa.eu/eli/reg/2006/1907/oj Accessed: 2026-10-21.

[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: 2026-10-21.

[3] EP and Council. Reg.(EC) 1272/2008 (CLP) + ATP 23. OJ EU L 353/2008. (2026-07-07) URL: https://eur-lex.europa.eu/eli/reg/2008/1272/oj Accessed: 2026-10-21.

[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: 2026-10-21.

[5] ISO. ISO 7010:2019 — Graphical symbols. Safety signs. URL: https://www.iso.org/standard/72424.html Accessed: 2026-10-21.

[6] ISO. ISO 3864-1:2011 — Safety colours and safety signs. URL: https://www.iso.org/standard/51021.html Accessed: 2026-10-21.

[7] PubChem. National Center for Biotechnology Information (NIH/NLM), chemical compound database. URL: https://pubchem.ncbi.nlm.nih.gov/compound/7904

[8] NIST. Chemistry WebBook, SRD 69. National Institute of Standards and Technology. URL: https://webbook.nist.gov/cgi/cbook.cgi?ID=108-05-4

[9] Rumble, J.R., ed. CRC Handbook of Chemistry and Physics. 105th ed. Boca Raton: CRC Press, 2024. URL: https://hbcp.chemnetbase.com

[10] ECHA. European Chemicals Agency — harmonised classification inventory (CLP Annex VI). URL: https://echa.europa.eu

[11] ECHA. REACH Registration Dossier (registered substance, acute toxicity study record). Helsinki: European Chemicals Agency. URL: https://echa.europa.eu/registration-dossier

[12] European Commission. Decision 2000/532/EC establishing a list of wastes (European Waste Catalogue). OJ EU L 226/3. URL: https://eur-lex.europa.eu/eli/dec/2000/532/oj

[13] 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

[14] Urben, P.G., ed. Bretherick's Handbook of Reactive Chemical Hazards. 8th ed. Oxford: Academic Press.

[15] Act of 26 June 1974 — Labour Code (Poland), Art. 176 § 1. Journal of Laws 2023 item 1465. URL: https://isap.sejm.gov.pl

[16] Council of Ministers of the Republic of Poland. Regulation of 3 April 2017 on the list of arduous, hazardous or health-harmful work for pregnant and breastfeeding women. Journal of Laws 2017 item 796. URL: https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20170000796

[17] CEN. Personal protective equipment standards (EN ISO 374-1, EN 166, EN 149, EN 14387, EN ISO 20345). Brussels: European Committee for Standardization.

[18] ECHA. Guidance on Information Requirements and Chemical Safety Assessment, Chapter R.11: PBT/vPvB Assessment. Helsinki: European Chemicals Agency. URL: https://echa.europa.eu/guidance-documents/guidance-on-information-requirements-and-chemical-safety-assessment

[19] European Parliament and Council. Regulation (EC) No 1907/2006 (REACH), Annex XIII — Criteria for the identification of PBT and vPvB substances. OJ EU L 396/2006 (consolidated). URL: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02006R1907-20140410

[20] IARC. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Lyon: International Agency for Research on Cancer. URL: https://monographs.iarc.who.int

[21] U.S. EPA. ECOTOX Knowledgebase. Washington, DC: U.S. Environmental Protection Agency. URL: https://cfpub.epa.gov/ecotox/

[22] MOL-GOD. Value obtained by calculation from the molecular formula/molecular weight (the specific quantity and its formula are indicated at the respective field). Calculated value, not an experimental measurement. URL: https://www.nist.gov/pml/atomic-weights-and-isotopic-compositions-relative-atomic-masses


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[23] 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: 2026-10-21.

## External links

NIST: https://webbook.nist.gov/cgi/cbook.cgi?ID=108-05-4

ChEMBL: https://www.ebi.ac.uk/chembl/compound_report_card/CHEMBL1470323

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




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