

SAFETY DATA SHEET (SDS)

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

Date: 02.09.2026 | Version: 1 | EN

glyphosate (ISO); N-(phosphonomethyl)glycine

2-(phosphonomethylamino)acetic acid

CAS 1071-83-6

C₃H₈NO₅P

EC 213-997-4

MOLAR MASS
169.07LOGP
-4.6

HAZARD CLASSIFICATION (GHS / CLP)



Danger

H318

H411

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	glyphosate (ISO); N-(phosphonomethyl)glycine
1.1 IUPAC name	2-(phosphonomethylamino)acetic acid
1.1 CAS number	1071-83-6
1.1 EC number	213-997-4
1.1 PubChem CID	3496
1.1 InChIKey	XDDAORKBJWWYJS-UHFFFAOYSA-N
1.1 SMILES	C(C(=O)O)NCP(=O)(O)O
1.1 Molecular formula	C ₃ H ₈ NO ₅ P ^[7]
1.1 Molar mass	169.07 g/mol ^[7]
1.1 Exact mass	169.0140 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)

2. Hazards identification



Danger

Hazard statements (H) ^{[3][4][9]}

H318	Causes serious eye damage
H411	Toxic to aquatic life with long lasting effects

Precautionary statements (P) ^{[3][4][9]}

P261	Avoid breathing dust/fume/gas/mist/vapours/spray
P264	Wash thoroughly after handling
P273	Avoid release to the environment
P280	Wear protective gloves/protective clothing/eye protection/face protection
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes; Remove contact lenses, if present and easy to do. Continue rinsing
P310	Immediately call a POISON CENTER or doctor/physician
P391	Collect spillage
P501	Dispose of contents/container to an approved waste collection point

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	1071-83-6
EC number	213-997-4
Molecular formula	C ₃ H ₈ NO ₅ P
Concentration	≥99% (typical reagent-grade purity — to be confirmed by the supplier's specification)
Clp index no	607-315-00-8

4. First aid measures



Inhalation

Move the affected person to fresh air. Keep at rest. If not breathing: artificial respiration (qualified personnel only). [\[1\]\[2\]\[12\]](#)

Skin contact

Remove contaminated clothing. Rinse skin with soap and water (min. 15 minutes). [\[1\]\[2\]\[12\]](#)

Eye contact

Rinse eyes with running water (min. 15 minutes). Remove contact lenses if possible. Call an ophthalmologist immediately. [\[1\]\[2\]\[12\]](#)

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. [\[1\]\[2\]\[12\]](#)

Symptoms and effects

eye irritation and watering. [\[3\]\[9\]](#)

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 ₂ , dry powder, foam.
Unsuitable extinguishing media	No specific restrictions.
Specific hazards	Thermal decomposition products: CO, CO ₂ , NO _x , P ₂ O ₅ . [13]
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. [1][2][12]
Environmental precautions	Prevent entry into sewers, groundwater and surface water. [1][2][12]
Methods for containment and cleaning up	Collect mechanically into suitable containers. Absorption: sand, vermiculite, diatomaceous earth. Do not sweep dry (dust formation). [1][2][12]
Related sections	8; 13

7. Handling and storage

Precautions	Work in a fume hood or with adequate ventilation. No eating, drinking or smoking in the work area. [1][2][12]
Storage temperature	Store at room temperature (15-25°C) or as indicated on the label. [1][2][12]
Humidity	Store in a dry place (<60% RH). [1][2][12]

Light	Protect from direct sunlight. ^{[1][2][12]}
Incompatible materials	Strong oxidizers, strong bases, Base metals (hydrogen evolution). ^[13]

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][14]}

 Chemical-resistant protective gloves EN ISO 374-1:2016+A1:2018 butyl (type B/C) – NOT latex	 Closed safety spectacles or goggles EN ISO 16321-1:2022 / EN 166:2001	 Face shield (splash risk) EN ISO 16321-1:2022	 Closed safety footwear with toe protection EN ISO 20345:2022 (S2/S3)
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9. Physical and chemical properties

Property (item 9.1)	Value	Source
Physical state	Solid	
Colour	No data available.	
Odour	No data available.	
pH (1% aqueous solution)	No data available.	
Melting point	189.5°C (experimental data) ^[7]	
Boiling point	No data available.	
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)	1.723 g/cm ³ ^[7]	
Vapour pressure	0 kPa (0 mmHg) (experimental data) ^[7]	
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	1050 g/L ^[7]	

Property (item 9.1)	Value	Source
Particle characteristics	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.	
Partition coefficient n-octanol/water (log value)	-4.6 ^[8]	
Molar mass	169.07 g/mol ^[7]	
Molecular formula	C ₃ H ₈ NO ₅ P ^[7]	
Lipinski rule (RO5)	PASS	

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

10. Stability and reactivity

Reactivity	Stable under normal storage and handling conditions.
Chemical stability	Thermally stable under recommended conditions.
Hazardous reactions	No hazardous reactions known under normal conditions.
Conditions to avoid	High temperatures, direct sunlight, moisture.
Incompatible materials	Strong oxidizers, strong bases, Base metals (hydrogen evolution).
Decomposition products	Thermal decomposition products: CO, CO ₂ , NO _x , P ₂ O ₅ .

11. Toxicological information

LD50 (oral)	LD50 1568 mg/kg (mouse, oral) ^[7]
LD50 (dermal)	No data available.
LC50 (inhalation)	LC50 >4.98 mg/L (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][9]}
Eye irritation	Category 1 — serious eye damage.
Sensitisation	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) ^{[3][9]}
Mutagenicity	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) ^{[3][9]}
Carcinogenicity	No harmonised CLP classification as carcinogenic; for carcinogenicity assessment see the IARC classification below. ^[17]
IARC classification (carcinogenicity)	IARC Group 2A — probably carcinogenic to humans. [local snapshot — not verified against the current IARC list] ^[17]
Reproductive toxicity	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) ^{[3][9]}
STOT — single exposure	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) ^{[3][9]}
STOT — repeated exposure	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) ^{[3][9]}
Aspiration hazard	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) ^{[3][9]}

12. Ecological information

Aquatic toxicity	Harmonised classification (CLP Annex VI): H411 — Toxic to aquatic life with long lasting effects (Aquatic Chronic 2). LC ₅₀ (fish): 0.53 mg/L (Clarias gariepinus, 96 h). EC ₅₀ (Daphnia): 2.95 mg/L (Daphnia magna, 48 h). EC ₅₀ (algae): 3.51 mg/L (Chlorella pyrenoidosa, 96 h) ^[18]
Persistence / biodegradability	No data available.
Bioaccumulative potential	log Kow = -4.6 ^[8] . Low bioaccumulation potential (log Kow < 4.5 — PBT/vPvB screening criterion per ECHA Guidance R.11). ^{[15][16]}
Mobility in soil	No data available.
PBT/vPvB assessment	Insufficient data to assess PBT/vPvB.
Endocrine disrupting properties	No information.

13. Disposal considerations

Disposal method	Hand over for disposal to licensed contractors in accordance with national and local regulations. Do not discharge into sewers.
Waste code (EWC)	16 05 06* — Laboratory and analytical chemicals (np. chemical reagents) zawierające substancje niebezpieczne. EWC code verification required. ^[11]
Packaging	Cleaned packaging may be recycled. Contaminated packaging must be treated as hazardous waste.

14. Transport information

UN number	UN 3077 ^[7]
Environmental hazard	CLP classification (H411) indicates aquatic environmental hazard — marine pollutant marking may be required; confirm per ADR 2.2.9 / IMDG criteria ^[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]
Environmentally hazardous (mark: fish and tree)	Yes

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]
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 02.09.2026 were omitted as future (not yet applicable).

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

Scientific citations (10)

- Diana Navarro, Estibaliz Mateo, M^oJesús Torija et al.. Acetic acid bacteria in grape must. *Acetic Acid Bacteria* (2013). DOI: 10.4081/aab.2013.s1.e4
- Shigeru Nakano, Hiroaki Ebisuya. Physiology of *Acetobacter* and *Komagataeibacter* spp.: Acetic Acid Resistance Mechanism in Acetic Acid Fermentation. *Acetic Acid Bacteria* (2016). DOI: 10.1007/978-4-431-55933-7_10
- Luciana De Vero, Paolo Giudici. Significance and management of acetic acid bacteria culture collections. *Acetic Acid Bacteria* (2013). DOI: 10.4081/aab.2013.s1.e9
- Fusheng Chen, Maria Gullo. 4th International Conference on Acetic Acid Bacteria - Vinegar and other products (AAB 2015). *Acetic Acid Bacteria* (2015). DOI: 10.4081/aab.2015.5518
- Isidoro Garcia Garcia, Maria Gullo. Acetic acid bacteria: features and impact in bio-applications. *Acetic Acid Bacteria* (2013). DOI: 10.4081/aab.2013.s1.e1

Full text of H statements

- H318** Causes serious eye damage
- H411** Toxic to aquatic life with long lasting effects

Full text of P statements

- P261** Avoid breathing dust/fume/gas/mist/vapours/spray
- P264** Wash thoroughly after handling
- P273** Avoid release to the environment
- P280** Wear protective gloves/protective clothing/eye protection/face protection
- P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes; Remove contact lenses, if present and easy to do. Continue rinsing
- P310** Immediately call a POISON CENTER or doctor/physician
- P391** Collect spillage
- P501** Dispose of contents/container to an approved waste collection point

Abbreviations

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

Version history

v1 (02.09.2026)

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: 2026-09-02.
- [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: 2026-09-02.
- [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: 2026-09-02.
- [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: 2026-09-02.
- [5] ISO. ISO 7010:2019 — Graphical symbols. Safety signs. URL: <https://www.iso.org/standard/72424.html> Accessed: 2026-09-02.
- [6] ISO. ISO 3864-1:2011 — Safety colours and safety signs. URL: <https://www.iso.org/standard/51021.html> Accessed: 2026-09-02.
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- [8] Rumble, J.R., ed. CRC Handbook of Chemistry and Physics. 105th ed. Boca Raton: CRC Press, 2024. URL: <https://hbcpc.chemnetbase.com>
- [9] ECHA. European Chemicals Agency — harmonised classification inventory (CLP Annex VI). URL: <https://echa.europa.eu>
- [10] ECHA. REACH Registration Dossier (registered substance, acute toxicity study record). Helsinki: European Chemicals Agency. URL: <https://echa.europa.eu/registration-dossier>
- [11] 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>
- [12] 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
- [13] Urben, P.G., ed. Bretherick's Handbook of Reactive Chemical Hazards. 8th ed. Oxford: Academic Press.
- [14] CEN. Personal protective equipment standards (EN ISO 374-1, EN 166, EN 149, EN 14387, EN ISO 20345). Brussels: European Committee for Standardization.
- [15] 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>
- [16] 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>
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- [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: 2026-09-02.

External links

NIST: <https://webbook.nist.gov/cgi/cbook.cgi?ID=1071-83-6>

ChEMBL: https://www.ebi.ac.uk/chembl/compound_report_card/CHEMBL95764

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

Issue date: 02.09.2026 | Document version: 1