SAFETY DATA SHEET (SDS)

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

Date: 31.07.2026 | Version: 7 | EN

acetic acid

acetic acid

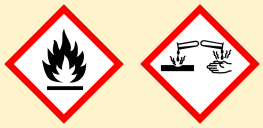
CAS 64-19-7

$C_2H_4O_2$ | EC 200-580-7

DH SCIENTIFIC

MOLAR MASS	LOGP
60.05	-0.17

HAZARD CLASSIFICATION (GHS / CLP)



Danger

H226 | H314

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	acetic acid
1.1 IUPAC name	acetic acid
1.1 CAS number	64-19-7
1.1 EC number	200-580-7
1.1 PubChem CID	176
1.1 InChIKey	QTBSBXVTEAMEQO-UHFFFAOYSA-N
1.1 SMILES	CC(=O)O
1.1 Molecular formula	$C_2H_4O_2$ [7]
1.1 Molar mass	60.05 g/mol [7]
1.1 Exact mass	60.0211 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

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

GHS:

PPE:

Prohibitions:

Danger

Hazard statements (H) [3][4][11]

H226	Flammable liquid and vapour
H314	Causes severe skin burns and eye damage

Precautionary statements (P) [3][4][11]

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
P260	Do not breathe dust/fume/gas/mist/vapours/spray
P280	Wear protective gloves/protective clothing/eye protection/face protection
P301+P330+P331	IF SWALLOWED: Rinse mouth; Do NOT induce vomiting
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing; Rinse skin with water or shower
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
P363	Wash contaminated clothing before reuse
P370+P378	In case of fire: Use appropriate media to extinguish
P403+P235	Store in a well-ventilated place: Keep cool
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	64-19-7
EC number	200-580-7
Molecular formula	$C_2H_4O_2$
Concentration	≥99% (typical reagent-grade purity — to be confirmed by the supplier's specification)
Clp index no	607-002-00-6
Specyficzne stężenia graniczne / M-współczynnik (CLP Zał. VI Tab.3)	SCL: H314: C ≥90 %; H314: 25 %≤ C <90 %; H315: 10 % ≤C <25 %; H319: 10 % ≤ C < 25 % [3]

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][15]

Skin contact

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

Eye contact

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

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][15]

Symptoms and effects

skin redness and irritation. [3][11]

Notes for physician

Requires verification

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

5. Firefighting measures

Suitable extinguishing media	Alcohol-resistant foam, carbon dioxide (CO_2), dry chemical powder, water spray/mist. [1][2][15]
Unsuitable extinguishing media	Full/compact water jet (splashes and spreads the burning liquid, which floats on water). [1][2][15]
Specific hazards	Thermal decomposition products:CO, CO2. [16]
Advice for firefighters	Use self-contained breathing apparatus (SCBA). Full protective suit. [1][2][15]
Flash Point	39°C [7]
Auto-ignition temperature	516.1°C [7]

6. Accidental release measures

Personal precautions	Use personal protective equipment (see Section 8). Avoid breathing vapours. [1][2][15]
Environmental precautions	Prevent entry into sewers, groundwater and surface water. [1][2][15]
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][15]
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][15]

Storage temperature	Store at room temperature (15-25°C) or as indicated on the label. [1][2][15]
Humidity	Store in a dry place (<60% RH). [1][2][15]
Light	Protect from direct sunlight. [1][2][15]
Incompatible materials	Strong oxidizers, strong bases, Base metals (hydrogen evolution), Ignition sources, open flames. [16]

8. Exposure controls/personal protection

8.1 Control parameters

OEL — NDS (Poland)	NDS = 25 mg/m³ (TWA) · NDSCh = 50 mg/m³ (STEL) — Polish MRPiPS Regulation (NDS/NDSCh list) [25]
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]

Chemical-resistant protective gloves
EN ISO 374-1:2016+A1:2018
nitrile (min. 0.11 mm)

Closed safety spectacles or goggles
EN ISO 16321-1:2022 / EN 166:2001

Face shield (splash risk)
EN ISO 16321-1:2022

Chemical-resistant protective clothing
EN 13034:2005+A1:2009 (typ 6) / EN 14126:2003 (bio)

Closed safety footwear with toe protection
EN ISO 20345:2022 (S2/S3)

9. Physical and chemical properties

UWAGA: Substancja może zestalać się w temperaturze poniżej 16.6°C.

Property (item 9.1)	Value	Source
Physical state	Liquid	
Colour	Clear, colorless liquid [7]	
Odour	Pungent [7]	
pH (1% aqueous solution)	No data available.	
Melting point	16.64°C [7][23]	
Boiling point	117.9°C [7][23]	
Flash point	39°C [7][23]	
Flammability	Flam. Liq. 3 (H226) [3][11]	
Lower and upper explosion limit	6–17 % obj. [23]	
Density (20°C)	1.051 g/cm³ [7][23]	
Vapour pressure	1.52 kPa (11.4 mmHg, 20°C) [7][23]	
Relative vapour density	2.07 [22]	
Dynamic viscosity	1.056 mPa·s [8]	
Kinematic viscosity	No data available.	
Refractive index nD^{20}	1.372 (experimental data) [7]	

Property (item 9.1)	Value	Source
Auto-ignition temperature	516.1°C (experimental data) [7]	
Decomposition temperature	Not applicable	
Surface Tension	27.1 mN/m [8]	
Stała dysocjacji (pKa)	pKa = 4.756 [8]	
Rozpuszcz. w wodzie	Miscible with water in all proportions.	
Particle characteristics	Not applicable (REACH 9.1(r))	
Partition coefficient n-octanol/water (log value)	-0.17 [24]	
Molar mass	60.05 g/mol [7]	
Molecular formula	$C_2H_4O_2$ [7]	

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), Ignition sources, open flames.
Decomposition products	Thermal decomposition products:CO, CO2.

11. Toxicological information

LD50 (oral)	3310 mg/kg (rat) [9][10]
LD50 (dermal)	LD50 1060 mg/kg (rabbit) [7]
LC50 (inhalation)	LC50 5,620 ppm (1 h) (mouse) [7]
Skin irritation	Category 1 (H314) — corrosive; sub-category (1A/1B/1C) per CLP Annex VI entry. [3][11]
Eye irritation	Serious eye damage — covered by the corrosive classification (H314; CLP Annex I 3.3.2.1). [3][11]
Sensitisation	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) [3][11]
Mutagenicity	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) [3][11]
Carcinogenicity	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) [3][11]
IARC classification (carcinogenicity)	No individual IARC monograph for this CAS — this is not confirmation of the absence of carcinogenicity (cf. CLP/GHS classification in section 2).
Reproductive toxicity	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) [3][11]
STOT — single exposure	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) [3][11]
STOT — repeated exposure	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) [3][11]
Aspiration hazard	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) [3][11]

12. Ecological information

Aquatic toxicity	LC_{50} (fish): 49 mg/L (Cyprinus carpio, 48 h). EC_{50} (Daphnia): 65 mg/L (Daphnia magna, 48 h) [21]
Persistence / biodegradability	No data available.
Bioaccumulative potential	log Kow = -0.17. 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	Zgłoszone efekty na układ hormonalny w badaniach na zwierzętach (dane ekotoksykologiczne, US EPA ECOTOX; nie stanowią regulacyjnej klasyfikacji ED wg 2018/605). [PL] [21]
Badania przesiewowe bioaktywności (EPA CompTox)	Substance tested in 18/584 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. [20]

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) zawierajace substancje niebezpieczne. EWC code verification required. [14]
Packaging	Cleaned packaging may be recycled. Contaminated packaging must be treated as hazardous waste.

14. Transport information

Class 3 — Flammable liquids

Class 8 — Corrosive substances

UN number	UN 2789 [13]
Proper shipping name	Acetic acid, glacial [13]
Transport hazard class	8 [13]
Packing Group	II [13]
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	Transport classification per ADR / UN Model Regulations (UN number, class and packing group above). Verify the ADR/IMDG/IATA edition in force on the date of shipment. [13]
Subsidiary hazard (class)	3

15. Regulatory information

SVHC status	Nie figuruje na liście kandydackiej SVHC REACH (art. 59) — stan listy ECHA: 2026-05-23. [PL] [1]

REACH Annex XIV	Nie figuruje w Załączniku XIV REACH (lista autoryzacyjna) — stan listy ECHA: 2025-09-13. [PL] [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]
Verification date	2026-07-31

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 after31.07.2026 were omitted as future (not yet applicable).

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

Full text of H statements

H226	Flammable liquid and vapour
H314	Causes severe skin burns and eye damage

Full text of P statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P233	Keep container tightly closed
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P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing; Rinse skin with water or shower
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
P363	Wash contaminated clothing before reuse
P370+P378	In case of fire: Use appropriate media to extinguish
P403+P235	Store in a well-ventilated place: Keep cool
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
vPvB	very Persistent and very Bioaccumulative

Version history

v7 (31.07.2026)	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: 2026-07-31.

[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/176

[8] Reid, R.C., Prausnitz, J.M., Poling, B.E. The Properties of Gases and Liquids. 4th ed. New York: McGraw-Hill, 1987.

[9] OECD. Screening Information Data Set (SIDS) — Initial Assessment Report. UNEP Publications. URL: https://hpvchemicals.oecd.org

[10] NIOSH. Registry of Toxic Effects of Chemical Substances (RTECS). Cincinnati: NIOSH. URL: https://www.cdc.gov/niosh/rtecs

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

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

[13] UNECE. European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), 2025 edition (ECE/TRANS/352). Geneva: United Nations. URL: https://unece.org/adr

[14] 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

[15] 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

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

[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] 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/DTXSID5024394

[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

[23] DECHEMA, PTB, and BAM. CHEMSAFE - Database of Evaluated Safety Characteristics for the Avoidance of Explosions. Frankfurt am Main: DECHEMA e.V.; Braunschweig/Berlin: Physikalisch-Technische Bundesanstalt and Bundesanstalt fur Materialforschung und -prufung. URL: https://www.chemsafe.ptb.de

[24] Sangster, J. "Octanol-Water Partition Coefficients of Simple Organic Compounds." Journal of Physical and Chemical Reference Data 18, no. 3 (1989): 1111-1229. URL: https://doi.org/10.1063/1.555833

[25] 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=64-19-7

ChEMBL: https://www.ebi.ac.uk/chembl/compound_report_card/CHEMBL539