

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

zinc

CAS 7440-66-6

Zn EC 231-175-3



MOLAR MASS
65.40

HAZARD CLASSIFICATION (GHS / CLP)



Danger

H250 H260 H400 H410

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	zinc
1.1 IUPAC name	—
1.1 CAS number	7440-66-6
1.1 EC number	231-175-3
1.1 PubChem CID	23994
1.1 InChIKey	HCHKCACWOHOZIP-UHFFFAOYSA-N
1.1 SMILES	[Zn]
1.1 Molecular formula	Zn ^[7]
1.1 Molar mass	65.4 g/mol ^[7]
1.1 Exact mass	63.9291 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][8]}

H250	Catches fire spontaneously if exposed to air
H260	In contact with water releases flammable gases which may ignite spontaneously
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Precautionary statements (P) ^{[3][4][8]}

P264	Wash thoroughly after handling
P273	Avoid release to the environment
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	7440-66-6
EC number	231-175-3
Molecular formula	Zn
Concentration	≥99% (typical reagent-grade purity — to be confirmed by the supplier's specification)
Clp index no	030-001-00-1

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][11]}

Skin contact

Remove contaminated clothing. Rinse skin with soap and water (min. 15 minutes). ^{[1][2][11]}

Eye contact

Rinse eyes with running water (min. 15 minutes). Remove contact lenses if possible. If irritation persists — consult an ophthalmologist. ^{[1][2][11]}

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][11]}

Symptoms and effects

No specific symptoms described in the literature. ^{[3][8]}

Notes for physician

Requires verification

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

5. Firefighting measures

Suitable extinguishing media	Selection of extinguishing media requires verification by a competent person (substance pyrophoric / water-reactive). Do NOT use water or CO2 without confirmation. ^{[1][2][11]}
Unsuitable extinguishing media	Water and CO2 may intensify the fire (substance pyrophoric / water-reactive, H250/H260) — do not use without verification. ^{[1][2][11]}
Specific hazards	No data on decomposition products. ^[12]
Advice for firefighters	Use self-contained breathing apparatus (SCBA). Full protective suit. ^{[1][2][11]}
Auto-ignition temperature	460°C ^[7]

6. Accidental release measures

Personal precautions	Use personal protective equipment (see Section 8). Avoid breathing dust. ^{[1][2][11]}
Environmental precautions	Prevent entry into sewers, groundwater and surface water. ^{[1][2][11]}
Methods for containment and cleaning up	Collect mechanically into suitable containers. Absorption: sand, vermiculite, diatomaceous earth. Do not sweep dry (dust formation). ^{[1][2][11]}
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] [11]
Storage temperature	Store at room temperature (15-25°C) or as indicated on the label. [1] [2] [11]
Humidity	Store in a dry place (<60% RH). [1] [2] [11]
Light	Protect from direct sunlight. [1] [2] [11]
Incompatible materials	Strong oxidizers, strong acids, strong bases. [12]

8. Exposure controls/personal protection

8.1 Control parameters

OEL — NDS (Poland)	NDS = 5 mg/m ³ (TWA) — Polish MRPIPS Regulation (NDS/NDSch list) [15]
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) [\[5\]](#)[\[6\]](#)[\[13\]](#)



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



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

9. Physical and chemical properties

Property (item 9.1)	Value	Source
Physical state	Solid	
Colour	Bluish-white, lustrous metal; distorted hexagonal close-packed structure; when heated to 100-150 °C becomes malleable, at 210 °C becomes brittle and pulverizable [7]	
Odour	No data available.	
pH (1% aqueous solution)	No data available.	
Melting point	419.53°C (experimental data) [7]	
Boiling point	907°C (experimental data) [7]	
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)	7.133 g/cm ³ (experimental data) [7]	
Vapour pressure	0.001 kPa (0.653 Pa) (experimental data) [7]	

Property (item 9.1)	Value	Source
Relative vapour density	Not applicable (REACH 9.1(q))	
Kinematic viscosity	Not applicable (REACH 9.1(l))	
Auto-ignition temperature	460°C (experimental data) ^[7]	
Decomposition temperature	Not applicable	
Rozpuszcz. w wodzie	Practically insoluble in water. ^[7]	
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.	
log Kow (XLogP3)	Not applicable (REACH 9.1(n))	
Molar mass	65.4 g/mol ^[7]	
Molecular formula	Zn ^[7]	

10. Stability and reactivity

Reactivity	Reactive according to classification (H250, H260) — see hazardous reactions. ^[12]
Chemical stability	Thermally stable under recommended conditions.
Hazardous reactions	The substance carries a reactivity classification (H250, H260) — hazardous reactions possible (pyrophoric / water-reactive). Requires verification by a competent person; do not assume the absence of reactions. ^[12]
Conditions to avoid	High temperatures, direct sunlight, moisture.
Incompatible materials	Strong oxidizers, strong acids, strong bases.
Decomposition products	No data on decomposition products.

11. Toxicological information

LD50 (oral)	LD50 630 mg/kg (rat, oral) ^[7]
LD50 (dermal)	No data available.
LC50 (inhalation)	No data available.
Skin irritation	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) ^{[3][8]}
Eye irritation	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) ^{[3][8]}
Sensitisation	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) ^{[3][8]}
Mutagenicity	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) ^{[3][8]}
Carcinogenicity	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) ^{[3][8]}
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][8]}
STOT — single exposure	Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) ^{[3][8]}

STOT — repeated exposure

Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) ^{[3][8]}

Aspiration hazard

Not classified for this hazard (outside the scope of the harmonised classification in CLP Annex VI; verify supplier self-classification) ^{[3][8]}

12. Ecological information**Aquatic toxicity**

Harmonised classification (CLP Annex VI): H400 — Very toxic to aquatic life (Aquatic Acute 1); H410 — Very toxic to aquatic life with long lasting effects (Aquatic Chronic 1)(M-factor for acute/chronic cat. 1 — to be verified per Table 3 of Annex VI, if assigned.). LC₅₀ (fish): 0.116 mg/L (Gambusia affinis, 48 h). EC₅₀ (Daphnia): 0.034 mg/L (Ceriodaphnia dubia, 48 h). EC₅₀ (algae): 0.005 mg/L (Raphidocelis subcapitata, 72 h) ^[14]

Persistence / biodegradability

No data available.

Bioaccumulative potential

No data available.

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] ^[14]

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. ^[10]

Packaging

Cleaned packaging may be recycled. Contaminated packaging must be treated as hazardous waste.

14. Transport information**UN number**

VERIFICATION REQUIRED — no verified UN assignment.

Environmental hazard

CLP classification (H400/H410) 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

Transport classification not verified. Do not assume the absence of restrictions — check ADR/IMDG/IATA before shipping.

Environmentally hazardous (mark: fish and tree)

Yes

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]

16. Other information

Substance type: element

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 31.07.2026 were omitted as future (not yet applicable).

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

Full text of H statements

H250	Catches fire spontaneously if exposed to air
H260	In contact with water releases flammable gases which may ignite spontaneously
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Full text of P statements

P264	Wash thoroughly after handling
P273	Avoid release to the environment
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
vPvB	very Persistent and very Bioaccumulative

Version history

v6 (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/23994>
- [8] ECHA. European Chemicals Agency — harmonised classification inventory (CLP Annex VI). URL: <https://echa.europa.eu>
- [9] ECHA. REACH Registration Dossier (registered substance, acute toxicity study record). Helsinki: European Chemicals Agency. URL: <https://echa.europa.eu/registration-dossier>
- [10] 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>
- [11] 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
- [12] Urban, P.G., ed. Bretherick's Handbook of Reactive Chemical Hazards. 8th ed. Oxford: Academic Press.
- [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] U.S. EPA. ECOTOX Knowledgebase. Washington, DC: U.S. Environmental Protection Agency. URL: <https://cfpub.epa.gov/ecotox/>
- [15] 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=7440-66-6>
 ChEMBL: https://www.ebi.ac.uk/chembl/compound_report_card/ChEMBL1201279

Legal notice: This document was generated automatically from data provided by PubChem (NIH), ECHA, NIST WebBook, ChemSpider (RSC), Wikidata and other public databases. It DOES NOT REPLACE an approved Safety Data Sheet (SDS) compliant with Regulation (EC) No 1907/2006 (REACH). Before using the substance, verify the data against the manufacturer's current SDS.

Generator: Document generated automatically from ECHA harmonised classification (Annex VI to CLP) and public physicochemical databases.

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

Issue date: 31.07.2026 | Document version: 6