

Safety Data Sheet ZINC Powder

SDS no. DYBF9GQ5 • Date of issue: 2023-08-15

SECTION 1: Identification

GHS Product identifier

Product name ZINC Powder

Other means of identification

ZINC Powder

Zinc dust

Non-Dangerous Goods Grade.

Recommended use of the chemical and restrictions on use

Galvanising iron and other metals, storage and dry cell batteries, fungicides, metal spraying, electroplating, alloys (brass, bronze and die-casting alloys), electrical fuses, nutrition (essential growth element), auto parts and laboratory reagent.

Additional information: Non-Dangerous Goods Grade.

Supplier's details

Name ChemSupply Australia Pty Ltd
Address 38-50 Bedford Street
5013 Gillman South Australia
Australia

Telephone 08 8440 2000
email www.chemsupply.com.au

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

General hazard statement

Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to the Australian Dangerous Goods when transported by road or rail in;

- (a) packagings that do not incorporate a receptacle exceeding 500 kg(L); or
- (b) IBCs.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

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- Hazardous to the aquatic environment, short-term (acute), Cat. 1
- Hazardous to the aquatic environment, long-term (chronic), Cat. 1

GHS label elements, including precautionary statements

Pictograms



Signal word

Warning

Hazard statement(s)

H400
H410

Very toxic to aquatic life
Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

P273
P391
P501

Avoid release to the environment.
Collect spillage.
Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight: 65.38

Components

Component	CAS no.	Concentration
Zinc (EC no.: 231-175-3; Index no.: 030-001-01-9)	7440-66-6	100 % (weight)
CLASSIFICATIONS: Hazardous to the aquatic environment, short-term (acute), Cat. 1; Hazardous to the aquatic environment, long-term (chronic), Cat. 1. HAZARDS: H400 - Very toxic to aquatic life; H410 - Very toxic to aquatic life with long lasting effects.		

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice

First Aid Facilities: Maintain eyewash fountain in work area.

If inhaled

If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

In case of skin contact

Wash skin with water using soap if available. If persistent irritation occurs, obtain medical attention.

In case of eye contact

Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. In all cases of eye contamination it is a sensible precaution to seek medical advice.

If swallowed

Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek medical advice if effects persist.

Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically based on judgement of doctor and individual reactions of the patient.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

DO NOT USE WATER OR FOAM.

DO NOT USE chlorinated hydrocarbon type extinguishers.

Small fire: Use dry chemical, soda ash, lime or dry sand.

Large fire: Use DRY sand, dry chemical, soda ash or lime or withdraw and let the fire burn.

If safe to do so, move undamaged containers from the fire area. Cool containers with flooding quantities of water until well after the fire is out. Avoid getting water inside the containers.

Specific hazards arising from the chemical

Produce flammable substances on contact with water. May ignite on contact with water or moist air. May react violently or explosively on contact with water. May be ignited by heat, sparks or flame. May re-ignite after fire is extinguished. Some are kept in or under flammable liquids. Fire will produce irritating, poisonous and/or corrosive gases. Containers may explode when heated. Run-off may create multiple fire or explosion hazard.

Fine dust dispersed in air in sufficient concentrations, and in presence of an ignition source is a potential dust explosion hazard.

Special protective actions for fire-fighters

Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. Fight fire from safe location.

Further information

Releases flammable hydrogen gas upon contact with acids or alkali hydroxides. Contact with strong oxidizers may cause fire.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms.

Environmental precautions

Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers.

Methods and materials for containment and cleaning up

Spills & Disposal: Eliminate all ignition sources (no smoking, flares, sparks or flame) within at least 25m. Do NOT touch or walk through spilled material. Stop leak if safe to do so. Prevent entry into waterways, drains, confined areas. Water spray may be used to knock down or divert vapour clouds.

DO NOT GET WATER inside containers or in contact with substance.

Small spill: Cover with DRY earth, sand or other non-combustible material followed by a plastic sheet to minimize spreading or contact with rain.

Large Spill:

SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid generation or accumulation of dusts. Prevent all contact with water and with moist atmosphere.
When using do not eat, drink or smoke. Avoid prolonged or repeated contact with skin, eyes and clothing . Ensure the appropriate personal protective equipment is used when handling this material.
Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry place. Store in well ventilated area. Store away from sources of heat or ignition.
Keep containers closed at all times. Prevent all contact with water and with moist atmosphere.

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Skin protection

Hand protection should comply with AS 2161 Industrial Safety Gloves and Mittens (Excluding Electrical and Medical Gloves).

Body protection

Footwear: Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.

Body Protection: Wear suitable protective clothing to prevent skin contact. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Respiratory protection

Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Solid
Appearance	White metal with blueish-gray lustre.
Color	white with blueish-gray
Odor	No data available.
Odor threshold	No data available.
Melting point/freezing point	419 °C
Boiling point or initial boiling point and boiling range	907 °C
Flammability	No data available.
Lower and upper explosion limit/flammability limit	Flammable Limits - Lower: 0.5 kg/m3 Flammable Limits - Upper: Not applicable.

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Flash point	680°C Spark Ignition of Dust Cloud, 460°C Powder Layer on heated surface.
Explosive properties	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	No data available.
Kinematic viscosity	No data available.
Solubility	Solubility in Water: Insoluble. Solubility in Organic Solvents: Soluble in acids and alkalis.
Partition coefficient n-octanol/water (log value)	No data available.
Vapor pressure	1 mm @ 487 °C
Evaporation rate	No data available.
Density and/or relative density	Specific Gravity: 7.14
Relative vapor density	No data available.
Particle characteristics	No data available.

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

No data available.

SECTION 10: Stability and reactivity

Reactivity

Stable under normal conditions of storage and handling.

Reacts with incompatible materials

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Moist zinc dust can react exothermically and ignite spontaneously in air.

Conditions to avoid

Incompatible materials.

Exposure to moisture.

Avoid storing in direct sunlight and avoid extremes of temperature.

Incompatible materials

Reacts violently with acids and alkali's (resulting in evolution of hydrogen gas), water, sulfur and halogens.

Explosion hazard in contact with acids, ammonium nitrate, barium oxide, barium nitrate, cadmium, carbon disulfide, chlorates, chlorine, chloro trifluoride, chromium trioxide, (ethyl acetoacetate + tribromoneopentyl alcohol), fluorine, hydrazine mononitrate, hydroxylamine, lead trinitrate, (magnesium + Ba(NO₃)₂ + BaO₂), manganese chloride, nitric acid, oxidising agents, performic acid, potassium perchlorate, potassium nitrate, potassium peroxide, selenium, sodium perchlorate, sodium peroxide, sulfur, tellurium, and water.

Hazardous decomposition products

Other decomposition products - No data available In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Acute Toxicity - Oral: LD50 (Rat) >2000 mg/kg.

Ingestion: May cause irritation of stomach. In severe cases, may cause stomach damage and vomiting.

Inhalation: Inhalation of zinc dusts or fume may cause METAL FUME FEVER, which is characterised by chills, fever, tightness of chest and coughing.

Skin corrosion/irritation

Skin: Reaction with moisture on skin may cause irritation. Particles embedded under the skin may cause prolonged gaseous blisters.

Serious eye damage/irritation

May cause irritation.

Respiratory or skin sensitization

No data available.

Germ cell mutagenicity

Mutagenicity: Ames-Test: negative.

Carcinogenicity

No data available.

Reproductive toxicity

No data available.

Summary of evaluation of the CMR properties

No data available.

Specific target organ toxicity (STOT) - single exposure

No data available.

Specific target organ toxicity (STOT) - repeated exposure

No data available.

Aspiration hazard

No data available.

Additional information

Persons with pre-existing skin disorders or impaired respiratory function may be more susceptible to the effects of zinc.

Zinc dust- flammable: duck LDLo oral 388mg/kg (388mg/kg) AUTONOMIC NERVOUS SYSTEM: OTHER (DIRECT) PARASYMPATHOMIMETIC

BEHAVIORAL: ATAXIA

BLOOD: CHANGES IN LEUCOCYTE (WBC) COUNT Journal of Wildlife Diseases. Vol. 36, Pg. 111, 2000.

[Link to PubMed](#)

human TLo inhalation 124mg/m3/50M (124mg/m3) LUNGS, THORAX, OR RESPIRATION: COUGH

LUNGS, THORAX, OR RESPIRATION: DYSPNEA

SKIN AND APPENDAGES (SKIN): SWEATING: OTHER Archiv fuer Hygiene. Vol. 72, Pg. 358, 1910.

SECTION 12: Ecological information

Toxicity

Ecological Information: Product reacts with water.

Ecotoxicity: Hazardous to the Aquatic Environment - Acute Hazard: Category 1

Hazardous to the Aquatic Environment - Long-Term Hazard: Category 1

Persistence and degradability

No data available.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Results of PBT and vPvB assessment

No data available.

Endocrine disrupting properties

No data available.

Other adverse effects

[Other Information: > 10 mg/l zinc ions per litre, the bacteriological self-purification of water is inhibited or suppressed.

Contamination of ground water involves risks for drinking water catchment.

Do not allow to enter waters, waste water or soil.

SECTION 13: Disposal considerations

Disposal methods

Product disposal

Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.

Other disposal recommendations

Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)

UN Number: 3077

Class: 9

Packing Group: III

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Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS ZINC)

Environmentally hazardous substance.

Hazchem emergency action code (EAC)

2Z

IMDG

UN Number: 3077

Class: 9

Packing Group: III

EMS Number:

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS ZINC)

IATA

UN Number: 3077

Class: 9

Packing Group: III

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS ZINC)

The product qualities covered by this SDS have been tested according to the criteria for classes 4.1, 4.2 and 4.3.

The test results show that these qualities don't meet the criteria for classification as dangerous goods in the classes 4.1, 4.2, or 4.3 for transport.

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP

Poison Schedule: NS

Canadian Domestic Substances List (DSL)

Chemical name: Zinc

CAS: 7440-66-6

Massachusetts Right To Know Components

Chemical name: Zinc

CAS number: 7440-66-6

New Jersey Right To Know Components

Common name: ZINC

CAS number: 7440-66-6

Pennsylvania Right To Know Components

Chemical name: Zinc

CAS number: 7440-66-6

SECTION 16: Other information

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Further information/disclaimer

ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

Preparation information

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Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia

National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'

Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.

Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.

Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants, December 2019

Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au

IATA, Dangerous Goods Regulations (DGR)

IMO, International Maritime Dangerous Goods Code (IMDG)