

Material Safety Data Sheet Zinc Sulphide

Section 1 - Product Identification

Synonyms : Zinblend wurtzite
Chemical Formula : ZnS
Company Identification : Tradeasia International Pte. Limited
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Recommended use : Laboratory chemicals, Manufacture of substances

Section 2 – Hazards Identification

2.1 Classification

Not classified as a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2 Label elements

Labeling according to Regulation (EC) No 1272/2008 (CLP)

Signal Word

None

Hazard Statements

None

Precautionary Statements

None

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Section 3 – Composition/Information on Ingredients

3.1 Composition comments

Formula : ZnS
Molecular weight : 97.46 g/mol
CAS-No. : 1314-98-3

Chemical Name	EC No/CAS No	Purity, %
Zinc sulphide	215-251-3/1314-13-2	100

Section 4 – First-Aid Measures

4.1. Description of first aid measures

General Advice

If symptoms persist, call a physician.

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin Contact	Wash off immediately with soap and plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
Inhalation	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
Ingestion	Clean mouth with water and drink plenty of water afterwards. Get medical attention if symptoms occur.

4.2. Most important symptoms and effects, both acute and delayed

Headache, Irritant effects, Nausea, Shortness of breath, Dizziness

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically

Section 5 – Fire Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media

Use dry chemical, carbon dioxide, water spray, or alcohol-resistant foam

5.2. Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating gases and vapors. – Sulphur oxides, Zinc/zinc oxides

5.3. Special protective actions for fire-fighters

Protective equipment

Wear protective eyewear, gloves, and clothing. Refer to Section 8

Additional information (precautions)

Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Keep away from skin, eyes, and clothing. Avoid generating dust.

Section 6 – Accidental Release Measures

6.1. Personal precautions, protective equipment, and emergency procedures

Use appropriate protective equipment. Avoid generating dust. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Avoid breathing dust.

6.2. Environmental precautions

No special environmental precautions required

6.3. Methods and material for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Section 7 – Handling and Storage

7.1. Precautions for safe Handling

Use appropriate personal protective equipment. Handle in accordance with good industrial hygiene and safety procedure. In areas where this substance is handled, stored, and processed, eating, drinking, and smoking should be prohibited. Employees should wash hands and face before breaks and after work. Avoid get it in eyes, skin, or clothing. Avoid generating dust.

7.2. Conditions for safe storage, including any incompatibilities

Keep the container tightly closed in a dry and well-ventilated place. Store in a cool place. Protect from freezing and physical damage. Store away from incompatible materials. Store away from strong acids. Air and moisture sensitive.

Section 8 – Exposure Controls/Personal Protection

8.1. Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Use only in well-ventilated place. Use process enclosures, local exhaust ventilation or other engineering controls to restrict worker exposure to airborne contaminants below any recommended or regulatory limits. The engineering controls must also keep the concentrations of gas, mist, or dust below any lower explosive limits (Occupational Exposure Limits-OELs).

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

Eye/face protection

Wear safety glasses or goggles. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching the glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Body Protection

Personal protection equipment for the body should be selected based on the task being performed and the dangers involved and should be approved by an expert. When handling chemicals, chemical-resistant gloves should be worn at all times.

Respiratory protection

Not required under normal conditions of use. Where risk assessment shows air-purifying respirators are appropriate, use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

No special environmental precautions required.

Section 9 – Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State	Powder
Appearance	Clear beige
Odor	No data available
Odor Threshold	No data available
pH	No data available
Melting Point/Range	1700 °C (3092 °F)
Boiling Point/Range	No data available
Flash Point	Not applicable
Evaporation Rate	No data available
Flammability (solid, gas)	No data available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Relative density	4.1 g/cm ³ at 25 °C
Water Solubility	No data available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Molecular Formula	ZnS
Molecular Weight	97.46 g/mol

Section 10 – Stability and Reactivity

10.1. Reactivity

N.A

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

None under normal circumstances.

10.4. Conditions to avoid:

Air sensitive

10.5. Incompatible materials

Strong oxidizing agents, Strong acids

10.6. Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. – Sulphur oxides, Zinc/zinc oxides

Other decomposition products – No data available

In the event of fire: See section 5

Section 11 – Toxicological Information

11.1 Health effects associated with ingredients

Information on Toxicological Effects:

Acute toxicity

LD50 Oral - Rat - > 2000 mg/kg (Zinc sulphide)

LD50 Dermal - Rat - > 2000 mg/kg (Zinc sulphide)

LC50 Inhalation - Rat - > 5040 mg/m³/4H

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

Not listed as carcinogen (ACGIH, IARC, NTP): 1314-98-3 (Zinc Sulphide)

Reproductive toxicity

No data available

Specific target organ toxicity – single exposure

No data available

Specific target organ toxicity – repeated exposure

No data available

Aspiration hazard

No data available

Additional information

RTECS: ZH5400000

Section 12 – Ecological Information

12.1. Toxicity

Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.

Toxicity in fish (LC50)	1.826 mg/l (ECOTOX: 96 hour, fathead minnow)
Toxicity to daphnia and other aquatic invertebrates	970 mg/l (IUCLID: 48 hour, water fleas)

12.2. Persistence and degradability

Not readily biodegradable

12.3 Bioaccumulative potential

N.A.

12.3. Mobility in soil

N.A.

12.4. Other adverse effects

No additional environmental adverse effects are known.

Section 13 – Disposal Considerations

13.1. Disposal methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

EPA Hazardous Waste Code(s): D001

Section 14 – Transport Information

14.1 UN number

ADR/RID: -

IMDG/IMO: -

IATA: -

14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: - IMDG: - IATA: -

14.4 Packaging group

ADR/RID: II IMDG: II IATA: II

Section 15 – Regulatory Information

15.1. Safety, health and environmental regulations

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2. Chemical safety assessment

For this product a chemical safety assessment was not carried out

Section 16 : Additional Information

16.1. List of abbreviation and acronyms used in this MSDS

SDS : Safety Data Sheets

Index N° : atomic number of the element most characteristic of the properties of the substance

CAS No : Chemical Abstracts Service number

EC No : EINECS Number : European Inventory of Existing Commercial Substances

Repr. Cat. 2 : Substance presumed human reproductive toxicant

Acute Oral Cat. 5 : Substance which is of relatively low acute oral toxicity.

GHS : Globally Harmonised System of Classification and Labelling

LD₅₀ : Median Lethal Dose

LC₅₀ : Lethal Concentration, 50%

N.A. : Not Applicable

OSHA : Occupational Safety & Health Administration

Cal OSHA : The State of California Division of Occupational Safety and Health (DOSH)

PEL : Permissible Exposure Limits

ACGIH : American Conference of Governmental Industrial Hygienists

TLV : Threshold Limit Value

Japanese MITI : Japanese Ministry of International Trade and Industry

EC₅₀ : Half maximal effective concentration

UN : United Nations

U.S. EPA TSCA Inventory: Inventory of the chemical substances manufactured or processed in the United States according to Toxic Substances Control Act compiled and published under the authority of the Environmental Protection Agency

Canadian DSL: Canadian Domestic Substances List

16.2. Disclaimer of Liability

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completeness. The conditions or methods of handling, storage use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use.

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