

# Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 10/13/2010

Reviewed on 03/29/2010

Zinc Sulfide

## 1 Identification of substance:

### Product details:

Product name: Zinc sulfide

Stock number: 13239

### Manufacturer/Supplier:

Alfa Aesar, A Johnson Matthey Company  
Johnson Matthey Catalog Company, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Emergency Phone: (978) 521-6300  
CHEMTREC: (800) 424-9300  
Web Site: www.alfa.com

Information Department: Health, Safety and Environmental Department

### Emergency information:

During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

## 2 Hazards identification

Hazard description: Not applicable

Information pertaining to particular dangers for man and environment

R 31 Contact with acids liberates toxic gas.

### Classification system

HMS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH	1
FIRE	0
REACTIVITY	1

Health (acute effects) = 1

Flammability = 0

Reactivity = 1

GHS label elements Void

### Prevention:

Keep away from acids.

## 3 Composition/Data on components:

### Chemical characterization:

Description: (CAS#)

Zinc sulfide (CAS# 1314-98-3)

Identification number(s):

EINECS Number: 215-251-3

## 4 First aid measures

### After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

### After skin contact

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

### After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek immediate medical advice.

## 5 Fire fighting measures

### Suitable extinguishing agents

Product is not flammable. Use fire fighting measures that suit the surrounding fire.

Special hazards caused by the material, its products of combustion or resulting gases:

In case of fire, the following can be released:

Metal oxide fume

Sulfur oxides (SOx)

### Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

USA

(Contd. on page 2)

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(Contd. of page 1)

## 6 Accidental release measures

### Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

### Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.

**Measures for cleaning/collecting:** Ensure adequate ventilation.

### Additional information:

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## 7 Handling and storage

### Handling

#### Information for safe handling:

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

**Information about protection against explosions and fires:** The product is not flammable

### Storage

**Requirements to be met by storerooms and receptacles:** No special requirements.

**Information about storage in one common storage facility:**

Store away from oxidizing agents.

Do not store together with acids.

**Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

## 8 Exposure controls and personal protection

### Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**Components with limit values that require monitoring at the workplace:** Not required.

**Additional information:** No data

### Personal protective equipment

#### General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

**Breathing equipment:** Use suitable respirator when high concentrations are present.

**Protection of hands:** Impervious gloves

**Eye protection:** Safety glasses

**Body protection:** Protective work clothing.

## 9 Physical and chemical properties:

### General Information

<b>Form:</b>	Lump
<b>Color:</b>	White
<b>Odor:</b>	Odorless

### Change in condition

<b>Melting point/Melting range:</b>	1700°C (3092°F)
<b>Boiling point/Boiling range:</b>	Not determined
<b>Sublimation temperature / start:</b>	Not determined

**Flash point:** Not applicable

**Ignition temperature:** Not determined

(Contd. on page 3)

USA

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(Contd. of page 2)

<b>Decomposition temperature:</b>	Not determined
<b>Danger of explosion:</b>	Product does not present an explosion hazard.
<b>Explosion limits:</b>	
<b>Lower:</b>	Not determined
<b>Upper:</b>	Not determined
<b>Vapor pressure:</b>	Not determined
<b>Density at 20°C (68°F):</b>	4.1 g/cm <sup>3</sup>
<b>Solubility in / Miscibility with Water:</b>	Insoluble

**10 Stability and reactivity**

**Thermal decomposition / conditions to be avoided:**

Decomposition will not occur if used and stored according to specifications.

**Materials to be avoided:**

Acids

Oxidizing agents

**Dangerous reactions** Contact with acids releases toxic gases

**Dangerous products of decomposition:**

Sulfur oxides (SOx)

Hydrogen sulfide

Metal oxide fume

**11 Toxicological information**

**Acute toxicity:**

**LD/LC50 values that are relevant for classification:**

Oral	LD50	>2000 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rat)
Inhalative	LC50/4H	>5040 mg/m <sup>3</sup> /4H (rat)

**Primary irritant effect:**

**on the skin:** No irritant effect.

**on the eye:** May cause irritation

**Sensitization:** No sensitizing effects known.

**Subacute to chronic toxicity:**

Zinc containing fumes may cause metal fume fever. Effects include dry throat, metallic taste, chest pain, dyspnea, rales and dry cough. Several hours later, chills may occur with lassitude, malaise, fatigue, headache, back pain, muscle cramps, blurred vision, nausea, fever, perspiration, vomiting and leukocytosis.

**Subacute to chronic toxicity:**

Sulfides show variable toxicity. The alkaline sulfides are similar in action to alkalis. They cause irritation of the skin and are corrosive by ingestion. The heavy metal sulfides are generally insoluble and show little toxic action except through the liberation of hydrogen sulfide. Hydrogen sulfide, if generated, is toxic, a severe irritant and flammable. Effects include conjunctivitis, headache, nausea, dizziness, coughing, pulmonary edema and possibly death.

**Additional toxicological information:**

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

**12 Ecological information:**

**Additional ecological information:**

**General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

(Contd. on page 4)

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(Contd. of page 3)

Do not allow material to be released to the environment without proper governmental permits.

**13 Disposal considerations**

**Product:**

**Recommendation:** Consult state, local or national regulations to ensure proper disposal.

**Uncleaned packagings:**

**Recommendation:** Disposal must be made according to official regulations.

**14 Transport information**

Not a hazardous material for transportation.

**DOT regulations:**

**Hazard class:** None

**Land transport ADR/RID (cross-border)**

**ADR/RID class:** None

**Maritime transport IMDG:**

**IMDG Class:** None

**Marine pollutant:** No

**Air transport ICAO-TI and IATA-DGR:**

**ICAO/IATA Class:** None

**Transport/Additional information:** Not dangerous according to the above specifications.

**15 Regulations**

**Product related hazard informations:**

**Risk phrases:**

31 Contact with acids liberates toxic gas.

**Safety phrases:**

50 Do not mix with acids

**National regulations**

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

**Information about limitation of use:**

For use only by technically qualified individuals.

This product contains zinc and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

**16 Other information:**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing MSDS:** Health, Safety and Environmental Department.

**Contact:** Ryan P. Wilson

**Abbreviations and acronyms:**

**ADR:** Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

**RID:** Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

**IMDG:** International Maritime Code for Dangerous Goods

**DOT:** US Department of Transportation

**IATA:** International Air Transport Association

**IATA-DGR:** Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

**ICAO:** International Civil Aviation Organization

**ICAO-TI:** Technical Instructions by the "International Civil Aviation Organization" (ICAO)

**GHS:** Globally Harmonized System of Classification and Labelling of Chemicals

**EINECS:** European Inventory of Existing Commercial Chemical Substances

(Contd. on page 5)

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CAS: Chemical Abstracts Service (division of the American Chemical Society)  
HMIS: Hazardous Materials Identification System (USA)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent

(Contd. of page 4)

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