

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 02/24/2011

Reviewed on 02/23/2011

1 Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name: Sodium sulfide

Stock number: 88697

CAS Number:

12034-39-8

EINECS Number:

215-211-5

Index number:

016-009-00-8

Relevant identified uses of the substance or mixture and uses advised against.

Sector of Use SU24 Scientific research and development

Details of the supplier of the safety data sheet

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 telephone number:

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

2 Hazards identification

Classification of the substance or mixture



GHS02 Flame

H252 Self-heating in large quantities; may catch fire.



GHS06 Skull and crossbones

H311 Toxic in contact with skin.



GHS05 Corrosion

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.



GHS09 Environment

H400 Very toxic to aquatic life.



GHS07

H302 Harmful if swallowed.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



T; Toxic

R24: Toxic in contact with skin.



C; Corrosive

R34: Causes burns.



Xn; Harmful

R22: Harmful if swallowed.

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N; Dangerous for the environment

R50: Very toxic to aquatic organisms.

R31: Contact with acids liberates toxic gas.

Information concerning particular hazards for human and environment: Not applicable

Label elements**Labelling according to EU guidelines:****Code letter and hazard designation of product:**

T Toxic

N Dangerous for the environment

Risk phrases:

22 Harmful if swallowed.

24 Toxic in contact with skin.

31 Contact with acids liberates toxic gas.

34 Causes burns.

50 Very toxic to aquatic organisms.

Safety phrases:

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

45 In case of accident or if you feel unwell, seek medical advice immediately.

61 Avoid release to the environment. Refer to special instructions/Safety data sheets

Hazard description:**WHMIS classification**

B6 - Reactive flammable material

D1A - Very toxic material causing immediate and serious toxic effects

D2B - Toxic material causing other toxic effects

E - Corrosive material

**Classification system****HMIS ratings (scale 0-4)**

(Hazardous Materials Identification System)

HEALTH	3
FIRE	3
REACTIVITY	1

Health (acute effects) = 3

Flammability = 3

Reactivity = 1

Other hazards**Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances**(CAS#) Description:**

Sodium sulfide: (CAS# 12034-39-8), 90-95%

Water: (CAS# 7732-18-5), 5%

Identification number(s):

EINECS Number: 215-211-5

Index number: 016-009-00-8

4 First aid measures

Description of first aid measures**General information** Immediately remove any clothing soiled by the product.**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.

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After eye contact

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

After swallowing Seek immediate medical advice.

5 Firefighting measures

Extinguishing media**Suitable extinguishing agents**

Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Hydrogen sulfide

Advice for firefighters**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Environmental precautions:

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

Methods and material for containment and cleaning up:

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Reference to other sections

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**Precautions for safe handling**

Handle under dry protective gas.

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:

Reacts with acids forming hydrogen sulfide

Conditions for safe storage, including any incompatibilities**Storage****Requirements to be met by storerooms and receptacles:**

Unsuitable material for containers: metals and alloys.

Information about storage in one common storage facility:

Store away from oxidizing agents.

Do not store together with acids.

Store away from air.

Store away from water/moisture.

Further information about storage conditions:

Store under dry inert gas.

This product is hygroscopic.

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

Protect from humidity and water.

This product is air sensitive.

8 Exposure controls/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.

Control parameters**Components with limit values that require monitoring at the workplace:** Not required.**Additional information:** No data

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Exposure controls**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

Tightly sealed goggles

Full face protection

Body protection: Protective work clothing.**9 Physical and chemical properties****Information on basic physical and chemical properties****General Information****Appearance:**

Form:	Powder
Color:	Light brown
Odor:	Like rotten eggs
Odour threshold:	Not determined.

pH-value: Not applicable.

Change in condition

Melting point/Melting range:	275°C (527 °F)
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined

Flash point: Not applicable

Flammability (solid, gaseous) Not determined.

Ignition temperature: Not determined

Decomposition temperature: Not determined

Auto igniting: Not determined.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower:	Not determined
Upper:	Not determined

Vapor pressure: Not applicable.

Density:	Not determined
Relative density	Not determined.
Vapour density	Not applicable.
Evaporation rate	Not applicable.

Solubility in / Miscibility with

Water: Soluble

Segregation coefficient (n-octanol/water): Not determined.

Viscosity:

dynamic:	Not applicable.
kinematic:	Not applicable.

Other information No further relevant information available.

10 Stability and reactivity**Reactivity****Chemical stability****Thermal decomposition / conditions to be avoided:**

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

Possibility of hazardous reactions Reacts with acids forming hydrogen sulfide**Incompatible materials:**

Acids

Oxidizing agents

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Water/moisture
Aluminum/aluminum alloys.
Copper
Air

Hazardous decomposition products:

Hydrogen sulfide
Metal oxide fume

11 Toxicological information**Information on toxicological effects****Acute toxicity:****Primary irritant effect:****on the skin:** Corrosive effect on skin and mucous membranes.**on the eye:** Strong corrosive effect.**Sensitization:** No sensitizing effects known.**Subacute to chronic toxicity:**

Corrosive materials are acutely destructive to the respiratory tract, eyes, skin and digestive tract. Eye contact may result in permanent damage and complete vision loss. Inhalation may result in respiratory effects such as inflammation, edema, and chemical pneumonitis. May cause coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. Ingestion may cause damage to the mouth, throat and esophagus. May cause skin burns or irritation depending on the severity of the exposure.

Sulfides show variable toxicity. The alkaline sulfides are similar in action to alkalies. 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.

Danger through skin absorption.

Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

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

12 Ecological information**Toxicity****Aquatic toxicity:** No further relevant information available.**Persistence and degradability** No further relevant information available.**Behavior in environmental systems:****Bioaccumulative potential** No further relevant information available.**Mobility in soil** No further relevant information available.**Ecotoxicological effects:****Remark:** Very toxic for aquatic organisms**Additional ecological information:****General notes:**

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

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

Very toxic for aquatic organisms

Results of PBT and vPvB assessment**PBT:** Not applicable.**vPvB:** Not applicable.**Other adverse effects** No further relevant information available.**13 Disposal considerations****Waste treatment methods****Recommendation** Consult state, local or national regulations to ensure proper disposal.**Uncleaned packagings:****Recommendation:** Disposal must be made according to official regulations.

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14 Transport information

DOT regulations:



Hazard class: 4.2
 Identification number: UN1385
 Packing group: II
 Proper shipping name (technical name): SODIUM SULPHIDE, ANHYDROUS
 Label: 4.2

Land transport ADR/RID (cross-border)



ADR/RID class: 4.2 (S4) Substances liable to spontaneous combustion
 Danger code (Kemler): 40
 UN-Number: 1385
 Packaging group: II
 Special marking: Symbol (fish and tree)
 UN proper shipping name: 1385 SODIUM SULPHIDE, ANHYDROUS

Maritime transport IMDG:



IMDG Class: 4.2
 UN Number: 1385
 Label: 4.2
 Packaging group: II
 Marine pollutant: No
 Segregation groups: Alkalies
 Proper shipping name: SODIUM SULPHIDE, ANHYDROUS

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class: 4.2
 UN/ID Number: 1385
 Label: 4.2
 Packaging group: II
 Proper shipping name: SODIUM SULPHIDE, ANHYDROUS

UN "Model Regulation": UN1385, SODIUM SULPHIDE, ANHYDROUS, 4.2, II

Environmental hazards: Environmentally hazardous substance, solid; Marine Pollutant

Special precautions for user Warning: Substances liable to spontaneous combustion

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Substance is not listed.

Product related hazard informations:

Hazard symbols:

T Toxic
 N Dangerous for the environment

Risk phrases:

22 Harmful if swallowed.
 24 Toxic in contact with skin.
 31 Contact with acids liberates toxic gas.

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34 Causes burns.

50 Very toxic to aquatic organisms.

Safety phrases:

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

45 In case of accident or if you feel unwell, seek medical advice immediately.

61 Avoid release to the environment. Refer to special instructions/Safety data sheets

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.**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**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:**

Zachariah C. Holt

Global EHS Manager

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)

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

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