

# Material Safety Data Sheet

## Sodium sulfide

ACC# 21651

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Sodium sulfide

**Catalog Numbers:** AC310180100, S426-212

**Synonyms:** Sodium monosulfide; sodium sulfide anhydrous; sodium sulfide with < 30% water of crystallization; sodium sulphide

**Company Identification:**

Fisher Scientific

1 Reagent Lane

Fair Lawn, NJ 07410

**For information, call:** 201-796-7100

**Emergency Number:** 201-796-7100

**For CHEMTREC assistance, call:** 800-424-9300

**For International CHEMTREC assistance, call:** 703-527-3887

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
1313-82-2	Sodium sulfide	60-62	215-211-5
7732-18-5	Water of crystallization	38-40	231-791-2

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: white to yellow solid.

**Danger!** Causes eye and skin burns. Causes digestive and respiratory tract burns. Harmful if swallowed. Decomposed even by weak acids, evolving hydrogen sulfide, H<sub>2</sub>S, a flammable, poisonous gas with the odor of rotten eggs. Contact with acids liberates toxic gas. May cause central nervous system effects. Prolonged exposure may cause pulmonary edema. May cause cardiac disturbances. Hygroscopic (absorbs moisture from the air). Very toxic to aquatic organisms.

**Target Organs:** Central nervous system, respiratory system, cardiovascular system, eyes, skin.

#### Potential Health Effects

**Eye:** Causes eye burns. May cause irreversible eye injury. May cause blindness. May cause chemical conjunctivitis and corneal damage.

**Skin:** Causes skin burns. May be absorbed through the skin in harmful amounts. Prolonged and/or repeated contact may cause irritation and/or dermatitis. Contact with skin causes irritation and possible burns, especially if the skin is wet or moist. May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color.

**Ingestion:** Harmful if swallowed. May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. May cause perforation of the digestive tract. May cause cardiac disturbances. May cause systemic effects. May cause dizziness, drowsiness, confusion, weakness, irregular breathing, and unconsciousness. Contact with stomach acids can liberate toxic hydrogen sulfide gas.

**Inhalation:** May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema. Causes chemical burns to the respiratory tract. May cause effects similar to those described for ingestion. Aspiration may lead to pulmonary edema. May cause systemic effects.

**Chronic:** Effects may be delayed.

### Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

**Skin:** Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

**Ingestion:** Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

**Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

**Notes to Physician:** Treat symptomatically and supportively.

### Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products.

**Extinguishing Media:** For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not applicable.  
**Explosion Limits, Lower:** Not available.  
**Upper:** Not available.  
**NFPA Rating:** (estimated) Health: 3; Flammability: 0; Instability: 0

## Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.  
**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Wash hands before eating. Use only in a well-ventilated area. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Keep away from heat, sparks and flame. Do not ingest or inhale. Discard contaminated shoes.  
**Storage:** Store in a cool, dry place. Keep container closed when not in use. Store in a tightly closed container. Keep from contact with oxidizing materials. Keep away from strong acids. Store protected from moisture.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Sodium sulfide	none listed	none listed	none listed
Water of crystallization	none listed	none listed	none listed

**OSHA Vacated PELs:** Sodium sulfide: No OSHA Vacated PELs are listed for this chemical. Water of crystallization: No OSHA Vacated PELs are listed for this chemical.

### Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to minimize contact with skin.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## Section 9 - Physical and Chemical Properties

**Physical State:** Solid

**Appearance:** white to yellow

**Odor:** rotten egg-like - weak odor

**pH:** Alkaline in solution

**Vapor Pressure:** Not applicable.

**Vapor Density:** Not available.

**Evaporation Rate:** Not applicable.

**Viscosity:** Not applicable.

**Boiling Point:** 346 deg F

**Freezing/Melting Point:** 197 deg F

**Decomposition Temperature:** Not available.

**Solubility:** 15% @ 20C

**Specific Gravity/Density:** 1.858

**Molecular Formula:** Mixture

**Molecular Weight:** Not available.

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable at room temperature in closed containers under normal storage and handling conditions.

**Conditions to Avoid:** Incompatible materials, light, exposure to air, exposure to moist air or water.

**Incompatibilities with Other Materials:** Metals, oxidizing agents, acids, carbon, moisture, diazonium salts.

**Hazardous Decomposition Products:** Oxides of sulfur, hydrogen sulfide.

**Hazardous Polymerization:** Has not been reported.

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 1313-82-2; WE1905000

CAS# 7732-18-5: ZC0110000

**LD50/LC50:**

CAS# 1313-82-2:

Oral, mouse: LD50 = 205 mg/kg;

Oral, rat: LD50 = 208 mg/kg;

CAS# 7732-18-5:

Oral, rat: LD50 = >90 mL/kg;

**Carcinogenicity:**

CAS# 1313-82-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 7732-18-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information found

**Teratogenicity:** No information found

**Reproductive Effects:** No information found

**Mutagenicity:** No information found

**Neurotoxicity:** No information found

**Other Studies:**

## Section 12 - Ecological Information

**Ecotoxicity:** Bacteria: Phytobacterium phosphoreum: EC50 = 4.29 mg/L; 15 minutes; Microtox test

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

	US DOT	Canada TDG
<b>Shipping Name:</b>	SODIUM SULFIDE, HYDRATED	SODIUM SULFIDE ANHYDROUS
<b>Hazard Class:</b>	8	4.2
<b>UN Number:</b>	UN1849	UN1385
<b>Packing Group:</b>	II	II
<b>Additional Info:</b>		LOAD SEPARATE FROM ACIDS

## Section 15 - Regulatory Information

### US FEDERAL

**TSCA**

CAS# 1313-82-2 is listed on the TSCA inventory.

CAS# 7732-18-5 is listed on the TSCA inventory.

**Health & Safety Reporting List**

None of the chemicals are on the Health & Safety Reporting List.

**Chemical Test Rules**

None of the chemicals in this product are under a Chemical Test Rule.

**Section 12b**

None of the chemicals are listed under TSCA Section 12b.

**TSCA Significant New Use Rule**

None of the chemicals in this material have a SNUR under TSCA.

**CERCLA Hazardous Substances and corresponding RQs**

None of the chemicals in this material have an RQ.

**SARA Section 302 Extremely Hazardous Substances**

None of the chemicals in this product have a TPQ.

**SARA Codes**

CAS # 1313-82-2: immediate, reactive.

**Section 313** No chemicals are reportable under Section 313.

**Clean Air Act:**

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

**Clean Water Act:**

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**OSHA:**

None of the chemicals in this product are considered highly hazardous by OSHA.

**STATE**

CAS# 1313-82-2 can be found on the following state right to know lists: New Jersey, Massachusetts.  
CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

#### **California Prop 65**

California No Significant Risk Level: None of the chemicals in this product are listed.

#### **European/International Regulations European Labeling in Accordance with EC Directives**

##### **Hazard Symbols:**

C N

##### **Risk Phrases:**

R 31 Contact with acids liberates toxic gas.

R 34 Causes burns.

R 50 Very toxic to aquatic organisms.

##### **Safety Phrases:**

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

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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

##### **WGK (Water Danger/Protection)**

CAS# 1313-82-2: 2

CAS# 7732-18-5: No information available.

##### **Canada - DSL/NDSL**

CAS# 1313-82-2 is listed on Canada's DSL List.

CAS# 7732-18-5 is listed on Canada's DSL List.

##### **Canada - WHMIS**

This product has a WHMIS classification of B6, D1B, E.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

##### **Canadian Ingredient Disclosure List**

## Section 16 - Additional Information

**MSDS Creation Date:** 6/21/1999

**Revision #3 Date:** 8/12/2005

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