

# Material Safety Data Sheet

## Sodium sulfide hydrate

ACC# 16847

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Sodium sulfide hydrate

**Catalog Numbers:** AC133720000, AC133720010, AC133720025, S426-212

**Synonyms:** None Known.

**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 |
|------------|--------------------------|---------|---------------|
| 27610-45-3 | Sodium sulfide hydrate   | 60-63   | unlisted      |
| 7732-18-5  | Water of crystallization | 37-40   | 231-791-2     |

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: yellow flakes.

**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. Prolonged exposure may cause pulmonary edema. May cause cardiac disturbances. May cause central nervous system effects. 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:** Harmful if absorbed through the skin. Causes skin burns.

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

**Inhalation:** Causes chemical burns to the respiratory tract. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. May cause systemic effects.

**Chronic:** Effects may be delayed.

## Section 4 - First Aid Measures

**Eyes:** 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.

**Ingestion:** Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. 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.

**Extinguishing Media:** Use foam, dry chemical, or carbon dioxide.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 3; Flammability: 0; Instability: 1

## 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. Minimize dust generation and accumulation. 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. Use only in a chemical fume hood.

**Storage:** Store in a cool, dry place. Do not store in direct sunlight. Store in a tightly closed container. Keep away from strong acids. Corrosives area. Keep refrigerated. (Store below 4°C/39°F.) Store under an inert atmosphere.

## 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. Use only under a chemical fume hood.

### Exposure Limits

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

**OSHA Vacated PELs:** Sodium sulfide hydrate: 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:** 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:** Flakes  
**Appearance:** yellow  
**Odor:** None reported.  
**pH:** Not available.  
**Vapor Pressure:** Not available.  
**Vapor Density:** Not available.  
**Evaporation Rate:**Not available.  
**Viscosity:** Not available.  
**Boiling Point:** Not available.  
**Freezing/Melting Point:**Not available.  
**Decomposition Temperature:**Not available.  
**Solubility:** Soluble.  
**Specific Gravity/Density:**Not available.  
**Molecular Formula:**Na<sub>2</sub>S.xH<sub>2</sub>O  
**Molecular Weight:**78.04

## Section 10 - Stability and Reactivity

**Chemical Stability:** Air sensitive. Sensitive to light. Hygroscopic: absorbs moisture or water from the air.  
**Conditions to Avoid:** Incompatible materials, light, exposure to air, exposure to moist air or water.  
**Incompatibilities with Other Materials:** Moisture, acids, carbon, oxidizing agents, diazonium salts, metals.  
**Hazardous Decomposition Products:** Oxides of sulfur, hydrogen sulfide.  
**Hazardous Polymerization:** Has not been reported.

## Section 11 - Toxicological Information

**RTECS#:**  
**CAS#** 27610-45-3 unlisted.  
**CAS#** 7732-18-5: ZC0110000  
**LD50/LC50:**  
Not available.

CAS# 7732-18-5:  
Oral, rat: LD50 = >90 mL/kg;

**Carcinogenicity:**  
CAS# 27610-45-3: 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 HYDRATED  |
| <b>Hazard Class:</b>    | 8                        | 8                        |
| <b>UN Number:</b>       | UN1849                   | UN1849                   |
| <b>Packing Group:</b>   | II                       | II                       |
| <b>Additional Info:</b> |                          | LOAD SEPARATE FROM ACIDS |

## Section 15 - Regulatory Information

**US FEDERAL**

**TSCA**

CAS# 27610-45-3 is not listed on the TSCA inventory. It is for research and development use only.

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.

**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 depletors.

This material does not contain any Class 2 Ozone depletors.

**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# 27610-45-3 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

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# 27610-45-3: No information available.

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

**Canada - DSL/NDSL**

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:** 9/02/1997

**Revision #10 Date:** 8/28/2007

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.*