PVS Chemicals
Plot No. 99 & 100, IDA, Kadapa-516004,
Andhra Pradesh, India.
GST : 37AANFP1260E1ZB
IEC: 0912017015

Safety Data Sheet
Material Name: Sodium Sulfide Flake or Sodium Sulphide Flake

* * * Section 1 - Chemical Product and Company Identification * * *

Chemical Name: Sodium Sulfide Hydrate or Sodium Sulphide Hydrate
Product Use: For Commercial Use**;**

RESTRICTIONS on USE

NOT TO BE USED AS A PESTICIDE. THIS PRODUCT IS NOT TO BE USED IN VIOLATION OF ANY PATENTS. PVS LTD. DISCLAIMS ANY AND ALL WARRANTIES, EITHER EXPRESSED OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR APPLICATION. IN NO EVENT SHALL PVS LTD. OR ITS SUPPLIERS BE LIABLE FOR ANY DAMAGES WHATSOEVER INCLUDING DIRECT, INDIRECT, INCIDENTAL, CONSEQUENTIAL, LOSS OF BUSINESS PROFITS OR SPECIAL DAMAGES, EVEN IF PVS LTD. OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. SOME STATES DO NOT ALLOW THE EXCLUSION OF LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES SO THE FOREGOING LIMITATION MAY NOT APPLY.

Supplier Information

PVS Chemicals.
Plot No.99 & 100, IDA,
Kadapa-516004,
Andhra Pradesh, India.

Phone: (91) 9966602105, 98855792178
Emergency Number: (91) 8688878888

NOTE: Emergency telephone numbers are to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to customer service.

* * * Section 2 - Composition / Information on Ingredients * * *

GHS HAZARDS

Hazard Classes	Hazard Categories
Corrosive to metals	Category 1
Acute toxicity, Oral	Category 3
Skin corrosion	Category 1B
Serious eye damage	Category 1
Acute aquatic toxicity	Category 1

Signal Word: Danger

Pictograms:

Hazard Statements

PHYSICAL HAZARDS: May be corrosive to metals

HEALTH HAZARDS: Toxic if swallowed
Causes severe skin burns and eye damage

ENVIRONMENTAL HAZARDS: Very toxic to aquatic life

PRECAUTIONARY STATEMENTS: Keep out of reach of children
Do not handle until all safety precautions have been read and understood
Avoid breathing dust
Avoid release to the environment
Wear protective gloves, clothing and eye protection

RESPONSE STATEMENTS: IF SWALLOWED: In India Immediately call the National POISON CENTER. DO NOT induce vomiting
IF ON SKIN Take off immediately all contaminated clothing. Rinse skin with water
IF INHALED, Remove to fresh air and keep comfortable for breathing
IF IN EYES rinse cautiously with water for at least 15 minutes
IF ON CLOTHING, Take off contaminated clothing
In case of fire use foam, carbon dioxide, dry chemical to extinguish fire
Stop a spill if safe to do so. See section 6 for proper clean up

STORAGE STATEMENTS: Keep Cool Store in a well-ventilated place

DISPOSAL STATEMENTS: Dispose of content and/or container in accordance with local, regional, national or international regulations

* * * Section 3 - Hazards Identification * * *

CAS #	Component	Percent
27610-45-3	Sodium sulfide hydrate	50-52
7732-18-5	Water	38-40

Synonyms: Disodium monosulfide, Disodium sulfide, Disodium sulphide, Sodium monosulfide, Sodium monosulphide.

* * * Section 4 - First Aid Measures * * *

Emergency Overview

Sodium Sulfide hydrate is a yellow solid in flake form which turns gray upon exposure to light and air. May be fatal if inhaled or swallowed. Corrosive or irritating to the eyes, skin, respiratory tract, or gastrointestinal tract. Releases hydrogen sulfide on contact with water and under fire conditions. The accumulation of dusts of this product can create a serious hazard of explosion. In solution, product vapors may be flammable and may form explosive mixture with air. Contact with acids will release very toxic and flammable hydrogen sulfide. Closed containers exposed to heat may explode.

* * * Section 4 - First Aid Measures Continued * * *

Hazard Statements

DANGER! CORROSIVE. MAY BE FATAL IF SWALLOWED OR INHALED. CORROSIVE OR SEVERELY IRRITATING TO THE EYES, SKIN, RESPIRATORY TRACT, OR GASTROINTESTINAL TRACT. MAY CAUSE ALLERGIC SKIN REACTION. Do not allow product to contact eyes or skin. Do not breathe dusts. Do not take internally. Wash thoroughly after handling. Keep container closed. Use only with adequate ventilation.

Potential Health Effects: Eyes

Corrosive to the eyes. Product can cause severe eye damage. Symptoms may include tearing, burning, redness, pain and blurred vision. Prolonged exposure may cause permanent damage or blindness.

First Aid: Eyes

Immediately flush the contaminated eye with plenty of water for 15 minutes. Get immediate medical attention.

Potential Health Effects: Skin

Product is severely irritating or corrosive to the skin. Prolonged or repeated contact may cause an allergic skin sensitization reaction, resulting in rash, swelling, itching, and possibly blistering of skin.

First Aid: Skin

If irritation occurs, wash gently and thoroughly with water and non-abrasive soap. If irritation persists, seek medical advice. Completely decontaminate clothing, shoes, and leather goods before reuse.

Potential Health Effects: Ingestion

Corrosive. May be fatal if swallowed. May cause burns to the mouth and throat. Symptoms may include vomiting, nausea, diarrhea, and abdominal pain.

First Aid: Ingestion

DO NOT INDUCE VOMITING. If swallowed, wash out mouth with water provided person is conscious. Never give anything by mouth to a victim who is unconscious or having convulsions. Contact a physician or poison control center immediately.

Potential Health Effects: Inhalation

Product is irritating to the respiratory system. Symptoms may include coughing, sore throat, and shortness of breath. Prolonged overexposure could lead to a build-up of fluid in the lungs, headaches, and dizziness. Severe overexposure to hydrogen sulfide gas (produced when sodium sulfide contacts water or in fire conditions) may result in memory loss, paralysis of facial muscles, nerve damage, pulmonary edema, unconsciousness, or death.

First Aid: Inhalation

Remove source of contamination or move victim to fresh air. Apply artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Get immediate medical attention.

First Aid: Notes to Physician

Provide general supportive measures. Consult nearest Poison Control Center for all exposures except minor instances of inhalation or skin contact. Amyl nitrite or sodium nitrite, although controversial, have been recommended as antidotes for hydrogen sulfide exposure by preventing severe anoxia.

* * * Section 5 - Fire Fighting Measures * * *

General Fire Hazards

Product will burn when exposed to heat or flame. Caution: Fire may produce toxic gases. Product gives off flammable vapors that may form an explosive mixture with air. Closed containers subject to heat may explode. Once moist, this compound may self-ignite upon drying in air. It is important to note that large dust clouds of this product have the potential to ignite explosively.

Hazardous Combustion Products

Sulfur oxides and disodium oxide. Releases hydrogen sulfide on contact with water and under fire conditions.

Extinguishing Media

Use flooding quantities of water. Use water to cool fire-exposed containers. Do not use carbon dioxide.

* * * Section 5 - Fire Fighting Measures Continued * * *

Fire Fighting Equipment/Instructions

Firefighters should wear full protective clothing. Move containers from fire area, if this is without risk. Fight fire from a safe distance.

NFPA Ratings: Health Hazard: 3 **Fire Hazard:** 1 Physical **Hazard:** 1 **Other:**
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

* * * Section 6 - Accidental Release Measures * * *

Containment Procedures

Stop the flow of material, if this can be done without risk. Contain the discharged material. If sweeping of a contaminated area is necessary use a dust suppressant agent, which does not react with product (see Section 10 for incompatibility information).

Clean-Up Procedures

Small releases can be cleaned-up wearing gloves, goggles and suitable body protection. In case of a large spill (in which excessive dusts can be generated), clear the affected area, protect people, and respond with trained personnel. Place all spill residues in an appropriate container and seal. Thoroughly wash the area after a spill or leak clean-up. Prevent spill rinsate from contamination of storm drains, sewers, soil or groundwater.

Evacuation Procedures

Evacuate the area promptly and keep upwind of the spilled material. Isolate the spill area to prevent people from entering. In case of large spills, follow all facility emergency response procedures.

Special Procedures

Remove soiled clothing and launder before reuse. Avoid all skin contact with the spilled material. Have emergency equipment readily available.

* * * Section 7 - Handling and Storage * * *

Handling Procedures

All employees who handle this material should be trained to handle it safely. Do not breathe dust. Avoid all contact with skin and eyes. Use this product only with adequate ventilation. Wash thoroughly after handling. are should be taken to avoid the accumulation of dusts, which can create a serious dust-explosion hazard. Remove contaminated clothing immediately. Keep in dust-tight containers. Keep away from all heat sources. Keep away from all ignition sources. Separate from water, acids, oxidizing materials, and carbon dioxide. Prevent release of fumes or dusts into the workplace.

Storage Procedures

Keep container tightly closed when not in use. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Material should be stored in secondary containers or in a diked area, as appropriate. Store containers away from incompatible chemicals (see Section 10, Stability and Reactivity). Storage areas should be made of corrosion- and fire-resistant materials. Post warning and "NO SMOKING" signs in storage and use areas, as appropriate. Use corrosion-resistant structural materials, lighting, and ventilation systems in the storage area. Floors should be sealed to prevent absorption of this material. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. Have appropriate extinguishing equipment in the storage area (i.e., sprinkler system, portable fire extinguishers).

Empty containers may contain residual particulates; therefore, empty containers should be handled with care. Do not cut, grind, weld, or drill near this container. Never store food, feed, or drinking water in containers that held this product. Keep this material away from food, drink and animal feed. Do not store this material in open or unlabeled containers. Limit quantity of material stored.

* * * Section 8 - Exposure Controls / Personal Protection * * *

Exposure Guidelines

A: General Product Information

If hydrogen sulfide is produced during the handling of sodium sulfide, follow the applicable exposure limit for this gas. The ACGIH TWA for hydrogen sulfide is 14 mg/m3. The ACGIH STEL for hydrogen sulfide is 21 mg/m3.

The exposure limits given are for Hydrogen Sulfide.

ACGIH:	10 (NIC = 5) ppm, TWA (NIC = Notice of Intended Change)
	15 ppm, STEL
OSHA:	20 (ceiling), ppm, STEL
	50 ppm (ceiling), 10 minute peak, once per shift, STEL
NIOSH	10 ppm (ceiling), 10 minutes, STEL
DFG MAKs	10 ppm, TWA
	2 MAK, 10 minute momentary value, PEAK

Engineering Controls

Use mechanical ventilation such as dilution and local exhaust. Use a corrosion-resistant, grounded ventilation system and exhaust directly to the outside. Supply ample air replacement. Provide dust collectors with explosion vents. Because of the high potential hazard associated with this material, stringent control measures such as enclosure or isolation may be necessary.

PERSONAL PROTECTIVE EQUIPMENT

The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132) or equivalent Standards of Canada. Please reference applicable regulations and standards for relevant details.

Personal Protective Equipment: Eyes/Face

Wear safety glasses with side shields or chemical goggles. If necessary, refer to U.S. OSHA 29 CFR 1910.133.

Personal Protective Equipment: Skin

Use impervious gloves. Gloves should be tested to determine their suitability for prolonged contact with this material. If necessary, refer to U.S. OSHA 29 CFR 1910.138.

Personal Protective Equipment: Respiratory

If respiratory protection is needed, use only protection authorized in the U.S. Federal OSHA Standard (29 CFR 1910.134), applicable U.S. State regulations. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard (1910.134-1998). If airborne concentrations are above the applicable exposure limits, use acid/gas cartridge respirator or other NIOSH-approved respiratory protection. The following NIOSH Guidelines for the possible decomposition product, hydrogen sulfide, are presented for further information.

Up to 100 ppm: Any Powered, Air-Purifying Respirator (PAPR) with cartridge(s) providing protection against Hydrogen Sulfide, or any Air-Purifying, Full-Facepiece Respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against Hydrogen Sulfide, or any Supplied-Air Respirator (SAR), or any Self-Contained Breathing Apparatus (SCBA) with a full facepiece.

Emergency or Planned Entry into Unknown Concentrations or IDLH Conditions: Any SCBA that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode, or any SAR that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary SCBA operated in pressure-demand or other positive-pressure mode.

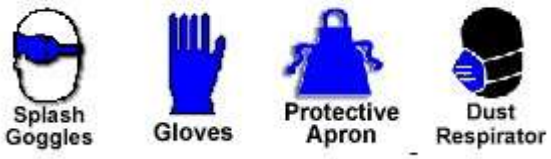
Escape: Any Air-Purifying, Full-Facepiece Respirator (gas mask) with a chin-style, front- or back-mounted canister providing protection against Hydrogen Sulfide, or any appropriate escape-type, self-contained breathing apparatus.

* * * Section 8 - Exposure Controls / Personal Protection Continued * * *

Personal Protective Equipment: General

Have an eyewash fountain and safety shower available in the work area. Personal protective equipment and clothing must be in accordance with 29 CFR 1910.132.

Protective Clothing Pictograms



* * * Section 9 - Physical & Chemical Properties * * *

Physical Properties: Additional Information

The data provided in this section are to be used for product safety handling purposes. Please refer to Product Data Sheets, Certificates of Conformity or Certificates of Analysis for chemical and physical data for determinations of quality and for formulation purposes.

Appearance:	Yellow Flake (turns gray upon exposure to	**Odor:**	Hydrogen sulfide
Physical State:	Solid	**pH:**	Strongly alkaline
Vapor Pressure:	Not applicable	**Vapor Density:**	Not applicable
Boiling Point:	Not applicable	**Melting Point:**	122 deg F (50 deg C)
Solubility (H2O):	18 g/100 ml water @ 25 deg C	**Specific Gravity:**	1.427 @ 16 deg C (water = 1)
Freezing Point:	Not applicable	**Particle Size:**	Not determined
Softening Point:	Not applicable	**Evaporation Rate:**	Not applicable
Viscosity:	Not applicable	**Percent Volatile:**	Not available
Bulk Density:	0.65 g/cc (flake)	**Chemical Formula:**	Na2S•3H2O; Na2S•xH2O
Molecular Weight:	78.05 as Na2S contains approx. 38% water		

Upper Flammable Limit (UEL): Not applicable
Lower Flammable Limit (LEL): Not applicable
Auto Ignition: Not applicable
Flammability Classification: Not applicable
Rate of Burning: Not applicable

* * * Section 10 - Chemical Stability & Reactivity Information * * *

Chemical Stability

Moderately stable. Aqueous solutions and moist solid may slowly give off hydrogen sulfide gas.

Chemical Stability: Conditions to Avoid

Avoid contact with water, heat, ignition and percussion sources, and incompatible materials listed below under “Incompatibility”. Finely divided material may explode in air.

Incompatibility

Acids - releases highly toxic and flammable hydrogen sulfide. Oxidizing agents - can react violently and form sulfur dioxide. Diazonium salts - react explosively. N,N-Dichloromethylamine - reacts explosively. Carbon - reaction releases heat. Contact with water releases hydrogen sulfide. Sodium Sulfide is incompatible with combustible materials.

Hazardous Decomposition

Sulfur oxides and disodium oxide. Releases hydrogen sulfide on contact with water and under fire conditions.

Hazardous Polymerization

Will not occur.

* * * Section 11 - Toxicological Information * * *

Acute Toxicity

A: General Product Information

Sodium Sulfide Hydrated is corrosive and may cause severe irritation and possibly burns to the skin, eyes, respiratory tract, and digestive system. A 25-27% solution of sodium sulfide hydrated caused skin corrosion in rabbits when exposed to the skin for 4 hours. Effects of exposure (inhalation, ingestion, or skin contact) may be delayed. Ingestion may result in decomposition to hydrogen sulfide in stomach, with subsequent systemic poisoning. Frequent exposure to low concentrations leads to tolerance, but exposure to high concentrations may cause sensitization reactions (sulfides). Probable oral lethal dose (human) is 50-500 mg/kg. Severe overexposure to hydrogen sulfide gas (produced when sodium sulfide contacts water or in fire conditions) may result in memory loss, paralysis of facial muscles, nerve damage, pulmonary edema, unconsciousness, or death.

B: Component Analysis - LD50/LC50

Sodium sulfide (1313-82-2)

Oral LD_{50} Mouse: 205 mg/kg; Oral LD_{50} Rat: 208 mg/kg; Intraperitoneal LD_{50} 147 mg/kg

C: Component Analysis - TDLo/LDLo

Sodium sulfide (1313-82-2)

Inhalation LCLo Rat 2 mg/kg 17 weeks-intermittent; Behavioral: changes in motor activity (specific assay); Blood: pigmented or nucleated red blood cells; Nutritional and Gross Metabolic: weight loss or decreased weight gain

Carcinogenicity

A: General Product Information

Information not available.

B: Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

Epidemiology

Information not available.

Neurotoxicity

Information not available.

Mutagenicity

Information not available.

Teratogenicity

Information not available.

Other Toxicological Information

None

* * * Section 12 - Ecological Information * * *

Product Name	Results	Species	Exposure
Sodium Sulfide Hydrate	LC50 7.7mg/l	Fish	96 hours
Sodium Sulfide Hydrate	EC50 = 4.29 mg/l	Microtox	15 minutes
Sodium Sulfide Hydrate	LC50 2.1 mg/l.	Daphnia	48 hours

Toxicity: Harmful to aquatic organisms, contain runoff

Persistence and Degradability: Expected to be biodegradable.

Bioaccumulation/ Accumulation: No information available

Mobility: No information available

* * * Section 13 - Disposal Considerations * * *

US EPA Waste Number & Descriptions

A: General Product Information

EPA Waste Numbers for corrosivity (D002) and reactivity (D003) may be required.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions

Review federal, provincial, and local government requirements prior to disposal. Disposal by controlled incineration or secure landfill may be acceptable.

* * * Section 14 – Transportation Information Ground * * *

NOTE: The shipping classification information in this section (Section 14) is meant as a guide to the overall classification of the product. However, transportation classifications may be subject to change with changes in package size. Consult shipper requirements under 49 CFR, IATA and IMDG to assure regulatory compliance.

US DOT 49 CFR 100-185 Revised January 15, 2015 Information

UN/NA #: UN 1849
Shipping Name: Sodium Sulfide, hydrated
Hazard Class: 8
Packing Group: II
Required Label(s): 8 (Corrosive)
RQ Quantity: None
Special Provisions: IB8, IP2, IP4
Packaging: 172.212

Additional Shipping Information

Limited Quantity Shipments: Shipments, except for air, need not be marked with the Proper Shipping Name of the contents, but shall be marked with a diamond. The top and bottom portions of the square-on-point must be black and the center white or of a suitable contrasting background. The mark must be at least 2 mm. Each side must have a minimum dimension of 100 mm.

Small packages which cannot reasonably accommodate a 100 mm square- on- point mark may be marked with a square- on- point mark with a minimum side dimension of 50 mm. The total weight of each outer packaging cannot exceed 30 kg (66 pounds).

Small Quantities for Highway and Rail: The maximum quantity of this material per inner receptacle is limited to 30 g (1 ounce) per receptacle. The inner receptacles must be securely packed in an inside packaging with cushioning material to prevent movement of the inner receptacles and packed in a strong outer box with a gross mass not to exceed 29kg (64 pounds). The completed package must meet the drop test requirements of 173.4(6) (i). The outside of the package must be marked with the statement "**This package conforms to 49 CFR 173.4 for domestic highway or rail transport only."**

Excepted Quantities: The maximum quantity of this material per inner receptacle is limited to 30 g (1 ounce) per receptacle and the aggregate quantity of this material per completed package does not exceed 500g (1.1 pounds). The inner receptacles must be securely packed in an inside packaging with cushioning material to prevent movement in the inner receptacles and packed in a strong outer box with a gross mass not to exceed 29kg (64 pounds). The completed package must meet a drop test. The requirements are found in 173.4(6) (i). The package must not be opened or otherwise altered until it is no longer in commerce. For highway or rail transportation no shipping paper is required. The package must be legibly marked with the following marking:

NOTE: The "*" must be replaced by the primary hazard class, or when assigned, the division of each of the hazardous materials contained in the package. The "**" must be replaced by the name of the shipper or consignee if not shown elsewhere on the package. The symbol shall be not less than 100 mm (3.9 inches) x 100 mm (3.9 inches), and must be durable and clearly visible.

De minimis Exceptions: The maximum quantity of this material per inner receptacle is limited to 1g (0.04 ounce) per receptacle and the aggregate quantity of this material per completed package does not exceed 100 g (0.22 pounds). The inner receptacles must be securely packed in an inside packaging with cushioning material to prevent movement in the inner receptacles and packed in a strong outer box with a gross mass not to exceed 29kg (64 pounds). The completed package must meet the drop test. The requirements are found in 173.4(6) (i). The package must not be opened or otherwise altered until it is no longer in commerce and may be transported by aircraft. If all of the above requirements are met, then this material is not regulated.

* * * Section 14 – Transportation Information Air * * *

56th Edition International Air Transport Association (IATA):
For Shipments by Air transport: This information applies to air shipments both within the U.S. and for shipments originating in the U.S., but being shipped to a different country.

UN/NA #: UN 1849
Proper Shipping Name: Sodium Sulfide, hydrated
Hazard Class: 8
Packaging Group: II
Passenger & Cargo Aircraft Packing Instruction: 859
Passenger & Cargo Aircraft Maximum Net Quantity: 15 kg
Limited Quantity Packing Instruction (Passenger & Cargo Aircraft): Y844
Limited Quantity Maximum Net Quantity (Passenger & Cargo Aircraft): 5 kg
Cargo Aircraft Only Packing Instruction: 863
Cargo Aircraft Only Maximum Net Quantity: 50kg
Excepted Quantities: 30g max net per inner package/0.5kg max met outer package
Special Provisions: None

ERG Code: 8L

Limited Quantity Shipments: Shipments for air must be marked with the Proper Shipping Name Sodium Sulfide, hydrated UN 1849 and shall be marked with a diamond. The top and bottom portions of the square-on- point must be black and the center white or of a suitable contrasting background and the symbol "Y" must be black and located in the center of the square-on-point. The mark must be at least 2 mm. Each side must have a minimum dimension of 100 mm. Small packages which cannot reasonably accommodate a 100 mm square- on- point mark may be marked with a square-on-point mark with a minimum side dimension of 50mm. The total weight of each outer packaging cannot exceed 30 kg.

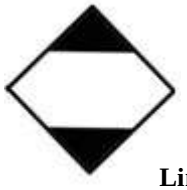
Excepted Quantities: The maximum quantity of this material per inner receptacle is limited to 30g per receptacle and the aggregate quantity of this material per completed package does not exceed 0.5kg. The inner receptacles must be securely packed in an intermediate packaging with cushioning material to prevent movement in the inner receptacles and packed in a strong outer box with a gross mass not to exceed 29kg. The completed package must meet a drop test. The requirements are found in 2.7.6.1. The package must not be opened or otherwise altered until it is no longer in commerce. For air transportation no shipping paper is required. The package must be legibly marked with the following marking:

.**NOTE:** The "*" must be replaced by the primary hazard class, or when assigned, the division of each of the hazardous materials contained in the package. The "**" must be replaced by the name of the shipper or consignee if not shown elsewhere on the package. The symbol shall be not less than 100 mm x 100 mm and must be durable and clearly visible.

* * * SECTION 14 – Transportation Information Vessel * * *

Amendment 37-14 International Maritime Dangerous Goods (IMDG) Code
For shipments via marine vessel transport, the following classification information applies.

UN/NA #: UN 1849
Proper Shipping Name: SODIUM SULFIDE, HYDRATED
Hazard Class: Class 8
Packing Group: II
Special Provisions: None
Limited Quantities: 1kg
Excepted Quantities: E2
Packing Instructions: P002
Provisions: none
IBC Instructions: IBC08
IBC Provisions: B2, B4
EmS: F-A, S-B
Stowage and Handling: Category A
Segregation: SG35



Limited Quantity Shipments: Shipments need not be marked with the Proper Shipping Name of the contents, but shall be marked with a diamond. The top and bottom portions of the square-on-point must be black and the center white or of a suitable contrasting background. The mark must be at least 2 mm. Each side must have a minimum dimension of 100 mm. Small packages which cannot reasonably accommodate a 100 mm square- on- point mark may be marked with a square- on- point mark with a minimum side dimension of 50 mm. The total weight of each outer packaging cannot exceed 30 kg (66 pounds). A Dangerous Cargo Declaration Form required.

Excepted Quantities: The maximum quantity of this material per inner receptacle is limited to 30 g per receptacle and the aggregate quantity of this material per completed package does not exceed 0.5kg. The inner receptacles must be securely packed in an intermediate packaging with cushioning material to prevent movement in the inner receptacles and packed in a strong outer box with a gross mass not to exceed 29kg. The completed package must meet a drop test. The requirements are found in 3.5.3.1. The package must not be opened or otherwise altered until it is no longer in commerce. For air transportation no shipping paper is required. The package must be legibly marked with the following marking:

NOTE: The "*" must be replaced by the primary hazard class, or when assigned, the division of each of the hazardous materials contained in the package. The "**" must be replaced by the name of the shipper or consignee if not shown elsewhere on the package. The symbol shall be not less than 100 mm x 100 mm and must be durable and clearly visible.

* * * Section 15 - Regulatory Information * * *

US Federal Regulations

A: General Product Information

No additional information.

B: Component Analysis

None of this product's components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4).

SARA 302 (EHS TPQ)

There are no specific Threshold Planning Quantities for Sodium Sulfide, Hydrated. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lbs (4,540 kg) therefore applies, per 40 CFR 370.20.

C: Sara 311/312 Tier II Hazard Ratings:

Component	CAS #	Fire Hazard	Reactivity Hazard	Pressure Hazard	Immediate Health Hazard	Chronic Health Hazard
Sodium Sulfide Hydrated	27610-45-3	No	Yes	No	Yes	Yes

State Regulations

A: General Product Information

Other state regulations may apply.

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Sodium Sulfide Hydrated	27610-45-3	No	No	No	No	No	No
Sodium Sulfide	1313-82-2	No	No	Yes	No	Yes	No

Other Regulations

A: Component Analysis - Inventory

Component	CAS #	TSCA	DSL	EINECS
Sodium Sulfide Hydrated	27610-45-3	No	No	Unlisted
Sodium Sulfide	1313-82-2	Yes	Yes	Yes
Water	7732-18-5	Yes	Yes	Yes

Note: Although Sodium Sulfide Hydrated (CAS # 27610-45-3) is not specifically listed. TSCA Inventory, it is excerpted from listing as a hydrate of the anhydrous form of Sulfur Sulfide (CAS # 1313-82-2). This also applies to the Canadian DSL Inventory.

ANSI LABELING (Z129.1):

DANGER! CORROSIVE. MAY BE FATAL IF SWALLOWED OR INHALED. CORROSIVE OR SEVERELY IRRITATING TO THE EYES, SKIN, RESPIRATORY TRACT, OR GASTROINTESTINAL TRACT. MAY CAUSE ALLERGIC SKIN REACTION. Do not allow product to contact eyes or skin. Do not breathe dusts. Do not take internally. Wash thoroughly after handling. Keep container closed. Use only with adequate ventilation. Wear gloves, goggles, faceshields, suitable body protection, and NIOSH-approved respiratory protection, as appropriate. Wash thoroughly after handling. **FIRST-AID:** In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If inhaled, remove to fresh air. If ingested, do not induce vomiting. Get medical attention. **IN CASE OF FIRE:** Use water fog, dry chemical, CO_2, or "alcohol" foam. **IN CASE OF SPILL:** Sweep up material. Place residue in suitable container. Consult Material Safety Data Sheet for additional information.

* * * Section 16 - Other Information * * *

Other Information

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Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration

Contact: P.Muni Kumar **Contact Phone:** (91)-9966602105