

## SAFETY DATA SHEET

### 1. IDENTIFICATION

Product identifier used on the label

: Flottec NaSH Modifier (Sodium Sulphhydrate)

Recommended use of the chemical and restrictions on use

: Depressor used in mining industry

Chemical family

: Salt

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party:

**Flottec, LLC**




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Information Telephone # : 1-713-425-7055

24 Hr. Emergency Tel # : Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.)

### 2. HAZARDS IDENTIFICATION

Classification of the chemical

		
H290: Substances and mixtures corrosive to metals  H314: Causes severe skin burns and eye damage  EUH071: Corrosive to the respiratory tract	H400: Very toxic to aquatic life.	301: Toxic if swallowed.  EUH031: Contact with acids liberates toxic gas .

Substances and mixtures corrosive to metals (Category 1)  
Skin corrosion / irritation (Category 1)  
Short-term (acute) hazard to the aquatic environment (Category 1)  
Acute toxicity (Category 3)  
Eye injuries (Category 1)  
Corrosive to skin (Category 1)

**Label elements**

**Signal Word**

Danger

**Hazard statement(s)**

H290: Substances and mixtures corrosive to metals  
H314: Causes severe skin burns and eye damage  
EUH071: Corrosive to the respiratory tract  
H400: Very toxic to aquatic life.  
301: Toxic if swallowed  
EUH031: Contact with acids liberates toxic gas

**Precautionary statement(s)**

P235: Keep cool.  
P260: Do not breathe dust, vapors, fumes and gases.  
P264: Wash face, hands, and exposed skin thoroughly after handling.  
P270: Do not eat, drink or smoke while using it.  
P271: Use only outdoors or in a well-ventilated area.  
P272: Contaminated work clothing should not be allowed out of the workplace.

P280: Wear protective gloves, protective clothing and eye protection.  
P301 + 330 + 331: IF SWALLOWED: Rinse mouth. Do not induce vomiting.  
P303 + 361 + 353: IF ON SKIN (or hair): Remove contaminated clothing immediately. Rinse the skin with soap and water or take a shower if necessary.  
P363: Wash contaminated clothing before use.  
P333 + 313: In case of skin irritation or rash: See a doctor.  
P304 + 340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P305 + 351 + 338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses, if it can be done easily. Continue with the wash.  
P310: Immediately call a doctor.  
P361 + P364: Remove / Take off immediately all contaminated clothing and wash before reuse.  
P405: Store it under lock and key.  
P407: Maintain air gap between stowed containers.  
P413: Store bulk product at temperatures no higher than 32 ° C / 90 ° F.  
P420: Store away from other materials.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Common name	CAS #	Concentration / wt %
Sodium Sulphhydrate (NaSH)	16721-80-5	70-73%

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

### 4. FIRST-AID MEASURES

#### Description of first aid measures

*Ingestion* : DO NOT induce vomiting, unless recommended by medical personnel. If the person is conscious, rinse their mouth with water. Never give anything by mouth if the victim is unconscious or convulsing. Remove any residue of the substance from the patient's mouth. Get medical advice right away.

*Inhalation* : Move person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen by trained personnel. If a problem develops or persists, seek medical attention.

*Skin Contact* : Flush with water for at least 20 minutes. Remove contaminated clothing and wash before reuse. Avoid touching eyes with contaminated body parts. Seek medical attention immediately.

*Eye Contact* : IMMEDIATELY flush with plenty of water. Remove contact lenses. Flush with water for at least 20 minutes. Hold eyelids apart to rinse properly. If a problem develops or persists, seek medical attention. Seek medical attention immediately.

**Symptoms** : It can cause severe eye damage or irritation or even blindness. May cause severe skin irritation or burns. May cause an allergic skin reaction. May be fatal if swallowed. CORROSIVE. May cause mouth and throat burns. Symptoms can include vomiting, nausea, diarrhea, and abdominal pain.

**Notes to the physician** : Treat according to specific conditions of exposure of the person. If lavage is not performed, endotracheal and / or esophageal control is suggested. The danger of pulmonary aspiration must be weighed against toxicity when considering a stomach lavage. Exposure treatment should be directed at controlling the symptoms and the clinical condition of the patient. Consider administering oxygen to the patient during inhalation; perform gastric lavage during ingestion.  
In case of severe pain, inject an intramuscular morphomimetic analgesic before taking the patient to hospital. Consult medical references for applicable antidotes.

### 5. FIRE-FIGHTING MEASURES

#### Extinguishing media

*Suitable extinguishing media*

: Flood with powder or foam..

*Unsuitable extinguishing media*

: Do not use carbon dioxide or water because it can promote the generation of flammable and toxic hydrogen sulfide gas.

#### Special hazards arising from the substance or mixture

: CAUTION: the product may spontaneously ignite if the water crystallization is <25%. The product forms dangerous gases / vapors during decomposition (920 ° C - (1688 ° F)). The product forms flammable gas in contact with water or humid air..

### Special protective equipment and precautions for firefighters

*Protective equipment for fire-fighters*

: Wear full protective clothing, including NIOSH / MSHA approved self-contained breathing apparatus and chemical resistant suits.

*Special fire-fighting procedures*

: Water sprayed on fire can dissolve sodium hydrosulfide and become highly corrosive and toxic. Finely divided sodium hydrosulfide powder forms explosive / combustible mixtures in air..

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

: Do not touch the spilled material. Be sure to use personal protective equipment used in this safety sheet.

Evacuate non-essential personnel.

Eliminate all sources of ignition and do not generate flames or sparks.

Wear suitable protective clothing, including a self-contained breathing apparatus or a supplied-air respirator.

### Environmental precautions

: Prevent entry into sewers and other closed areas. In case of a large spill consult the environment department or the relevant authorities.

Dispose of spilled material at an EPA approved disposal facility.

Empty containers can have residue, gases and mists that are dangerous.

### Methods and material for containment and cleaning up

: Ventilate the area well. Stop leak if possible without risk. Buffer with inert material (earth, sand, vermiculite) and place in an appropriate, well-labeled waste container. Finish cleaning by rinsing the contaminated surface with water. Have a licensed contractor for disposal.

Collect the product with the appropriate means avoiding the formation of dust.

Collect the recycled liquid or use hydrochloric acid to solve with water.

Contain spill and deposit in a closed, labeled, DOT approved waste container.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

: Handle in a ventilated workplace. Do not drink, eat, or smoke during handling. Avoid contact with the eyes. The personnel involved with its manipulation must have all the recommended protection elements. DO NOT mix with acidic materials.

### Conditions for safe storage

: Store tightly closed and in appropriately labeled containers in a cool, dry, well-ventilated place. Containers that have been opened should be carefully resealed and kept upright to prevent leakage and gain or loss of water. Store away from acids and incompatible materials. Keep away from sunlight, moisture and heat. Storage or packaging material: iron or steel or PE drums. Store in a cool, dry, well-ventilated place. Store away from other chemicals, including acids, oxidants, zinc, aluminum, or copper. The product corrodes containers other than iron or steel. Store away from all sources of ignition and out of direct sunlight. Keep the product in closed, dust-proof containers.

### Storage temperature

: 10 to 40°C (50 a 104 F)

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Immediately Dangerous to Life or Health

	TLV	STEL	IDLH
Hydrogen sulfide	10ppm	15ppm	100ppm
Sulfur dioxide	2ppm	5ppm	100ppm

### Exposure controls

**Appropriate engineering controls** : Ensure adequate ventilation, especially in confined areas. The material must be handled or transferred with adequate ventilation and an independent system..

### Respiratory protection

: Use a NIOSH approved dust / mist or positive pressure respirator, depending on the dust concentration and presence of hydrogen sulfide gas. A supplied-air respirator is recommended for unknown concentrations of hydrogen sulfide gas.

### Skin protection

: Personal protective equipment for the body should be selected based on the task to be carried out and the risks involved. It is required to wear normal work clothes covering arms and legs. Wear an apron or a long-sleeved protective suit.

### Eye / face protection

: Chemical goggles unless a full facepiece respirator is also used. Contact lenses are not recommended when handling this product.

- Hands** : Chemical resistant, impervious gloves should be worn at all times when handling this product. Before using them confirm impermeability. Discard gloves that show tears, holes, or signs of wear. Gloves should only be used with clean hands. Wash the gloves with water before removing them. After using the gloves you should wash and dry your hands.
- Other protective equipment** : Wear rubber boots to clean up a spill. Wear chemical protective clothing in dusty areas. There should be an eyewash and safety shower nearby and ready to use. Use good hygiene practices when handling this product, including changing work clothes after use. Do not eat, drink, or smoke in areas where this material is handled.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state</b>	: Solid	<b>Flammability limits (% by vol.)</b>	: N/Av
<b>Color</b>	: Yellow	<b>Flash point</b>	: N/Av
<b>Odor</b>	: sulfur	<b>Auto-ignition temperature</b>	: N/Av
<b>Odor threshold</b>	: N/Av	<b>Sensibility to electrostatic charge</b>	: No
<b>pH</b>	: 11-12 (50g/L, H <sub>2</sub> O, 20°C)	<b>Sensibility to sparks/friction</b>	: No
<b>Melting/Freezing point</b>	: N/Av	<b>Vapor density (Air = 1)</b>	: N/Av
<b>Boiling point/range</b>	: 115 °C (239°F)	<b>Relative density (Water = 1)</b>	: 1.5 kg/L @ 16°C (60.8°F)
<b>Solubility in water</b>	: 54gr/100ml of water	<b>Partition coefficient (n-octanol/water)</b>	: N/Av
<b>Evaporation rate (BuAc = 1)</b>	: N/Av	<b>Decomposition temperature</b>	: N/Av
<b>Vapor pressure</b>	: N/Av	<b>Viscosity</b>	: N/Av
<b>Volatiles (% by weight)</b>	: N/Av	<b>Molecular mass</b>	: N/A
<b>Flammability (solid, gas)</b>	: N/Av		

## 10. STABILITY AND REACTIVITY

- Reactivity** : Although stable at room temperature, sodium hydrosulfide is unstable and can explode on rapid heating or percussion. This material is hygroscopic
- Chemical stability** : Avoid contact with sources of heat, moisture and ignition. Product corrodes containers other than iron or steel
- Possibility of hazardous reactions (including polymerizations)** : Hazardous polymerization will not occur.
- Conditions to avoid** : Avoid contact with incompatible materials.
- Incompatible materials** : Avoid contact with water, acids, carbon dioxide, oxidizing materials and non-ferrous metals (aluminum-copper-zinc).
- Hazardous decomposition products** : Hydrogen sulfide gas (with acids) and sulfur dioxide gas (with oxidants).

## 11. TOXICOLOGICAL INFORMATION

### Toxicological data

Chemical name	LC <sub>50</sub> (Inhalation, rat)	LD <sub>50</sub> / mg/kg	
		(Oral, rat)	(Dermal, rabbit)
Hydrogen sulfide	1,500 mg/m <sup>3</sup>	96-208 mg/kg.	n/d

### Likely routes of exposure

- Skin** : Yes
- Eye** : Yes
- Inhalation** : Yes
- Ingestion** : Yes

### Potential Health Effects:

#### Signs and symptoms of delayed, immediate and chronic effects:

- Skin** : Toxic if absorbed through the skin. Extensive contact with the skin for several hours can cause harmful amounts of material to be absorbed. It can cause skin irritation. Prolonged contact can cause burns. The product is not considered corrosive to the skin based on the alkalinity and pH of the solution.
- Eye** : May cause severe irritation or damage to eyes and even blindness

<b>Inhalation</b>	: Inhalation of vapors/mists can cause burns to nose, throat and respiratory tract.
<b>Ingestion</b>	: Harmful if ingested. Ingestion causes digestive tract disorders such as nausea, vomiting, colic, and diarrhea. Can be fatal if swallowed.
<b>Sensitization to material</b>	: Ingredients present at levels greater than or equal to 0.1% of this product are skin or respiratory sensitizers.
<b>IRAC/NTP Classification</b>	: No ingredients listed
<b>Carcinogenicity</b>	: Ingredients present at levels greater than or equal to 0.1% of this product are not listed as a carcinogen by IARC, ACGIH, NIOSH, NTP or OSHA.
<b>Mutagenicity</b>	: In vitro mutagenic effect.
<b>Reproductive Effects</b>	: Ingredients in this product present at levels greater than or equal to 0.1% are not known to cause effects on reproduction.
<b>Specific target organ effects – single exposure</b>	: No target organ is listed.
<b>Specific target organ effects – repeated exposure</b>	: No target organ is listed.
<b>Other information</b>	: The acute oral toxicity estimates of the mixture were calculated to be greater than 300 mg / kg but less than 2000 mg / kg. This value is established according to the GHS: Acute toxicity, oral (Category 4). Estimates of the acute toxicity to skin of the mixture were calculated to be greater than 200 mg / kg but less than 1000 mg / kg. This value is established according to the GHS: Acute toxicity, dermal (Category 3)

## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	: Fish -(Semolitus atromaculatus,) LC50 10 mg/L; 24 h Fish -(Gambusia affinis,) EC50 206 mg/L; 96 h
<b>Persistence</b>	: It is persistent in the environment.
<b>Degradability</b>	: According to Annex IX of the REACH regulation n, no information is required on the hydrolysis of inorganic compounds. The rest of the sections of section 5.1 are not applicable either. IUCLID.
<b>Bioaccumulation potential</b>	: N/Av
<b>Mobility in soil</b>	: Air: Mobility as solid aerosols. Water / soil: considerable solubility and mobility.
<b>Other adverse environmental effects</b>	: AOX and metal content: Does not contain organic halogens or metals.

## 13. DISPOSAL CONSIDERATIONS

<b>Handling for Disposal</b>	: Important! Prevent the generation of waste. Use in its entirety. Do not dispose of waste into sewers, streams, or drinking water supplies. Waste and empty containers should be considered hazardous waste. Return properly labeled empty containers to the supplier or to any location where there is a collection program. Have an authorized means for its elimination. Comply with all federal, state and municipal regulations. If necessary consult the environment department or the relevant authorities. DO NOT neutralize with the acid directly, you must change the sulfide to sulfate with 3% hydrogen peroxide solution first; Or neutralize the hydrosulfide sulfide with the iron chlorine first and then add the sodium carbonate to the waste. Sodium Hydrosulfide is considered hazardous to the environment. Spilled product should be disposed of at an EPA-approved disposal facility in accordance with applicable national, state, and local environmental laws and regulations. To avoid treatment, use specific containers when possible. Rinse empty containers and treat effluent in the same way as waste.
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**14. TRANSPORTATION INFORMATION**

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
DOT	2949	Corrosive class	8	III	Corrosive
<b>Additional Information</b>					
TDG	2949	Corrosive class	8	II I	Corrosive
<b>Additional Information</b> Emergency response guidebook 2012 - 154					
IMO/IMDG	2949	Corrosive class	8	II I	Corrosive
<b>Additional Information</b> Emergency schedules (EmS-No) F-A, S-B					
IATA	2949	Corrosive class	8	II I	Corrosive
<b>Additional Information</b>					

**15 - REGULATORY INFORMATION**

**US Federal Information:**

SARA Title III Sec. 302/303 Extremely Hazardous Substances (40 CFR 355): No.

SARA Title III Sec. 311/312 (40 CFR 370):

- Hazard Category: Acute health hazard.Reactive hazard.
- Threshold planning quantity: 10,000 lbs.

SARA Title III Sec. 313 Toxic Chemical Emissions Reporting (40 CFR 372): No.

CERCLA Hazardous Substance (40 CFR Part 302)

- Listed: Yes. • Reportable Quantity: 5,000 lbs.

**16. OTHER INFORMATION**

**Other special considerations for handling** : Provide adequate information, instruction and training for operators.

Prepared by: Flottec, LLC

Revised by:

REASON FOR REVISION:

**DISCLAIMER**

The above information is believed to be accurate and represents the best information currently available to us. However, we make no warrantee of merchantability or any other warrant, expressed 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 uses.

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