1. Identification of the Substance/Mixture and of the Company/Undertaking

Product Code: 10012555
Product Name: Sodium Hydrogen Sulfide (hydrate)
Synonyms: sodium sulfide, hydrate; NaHS; NSC 158264; Sodium Hydrosulfide;
Intended Use: For research use only, not for human or veterinary use.

Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
Alternate Emergency Contact: CHEMTREC Outside USA and Canada: +1 (703)527-3887
Information: Cayman Chemical Company +1 (734)971-3335
Web site address: www.caymanchem.com

2. Hazards Identification

GHS Classification
Skin Corrosion/Irritation, Category 1B
GHS Hazard Phrases: H314: Causes severe skin burns and eye damage.
GHS Storage and Disposal Phrases: Please refer to Section 7 for Storage and Section 13 for Disposal information.
Route(s) of Entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection
Potential Health Effects (Acute and Chronic): Causes severe skin burns and eye damage. Contact with acids liberates toxic gas. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. May be harmful by inhalation, ingestion, or skin absorption.
Target Organs: No data available.
Signs and Symptoms Of Exposure: Burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Eye contact may result in severe tissue burns and possible loss of sight. Inhalation may result in spasm, inflammation, and edema of the larynx and bronchi, pneumonitis, and pulmonary edema. To the best of our knowledge, the toxicological properties have not been thoroughly investigated.
SAFETY DATA SHEET
Sodium Hydrogen Sulfide (hydrate)

Medical Conditions Generally Aggravated By Exposure: No data available.

3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>Concentration</th>
<th>EC#</th>
<th>Risk Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydrosulfide hydrate</td>
<td>207683-19-0</td>
<td>100.0 %</td>
<td>240-778-0</td>
<td>R31-34</td>
</tr>
</tbody>
</table>

4. First Aid Measures

Emergency and First Aid Procedures:

In Case of Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

In Case of Skin Contact: Immediately wash skin with soap and plenty of water for at least 20 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

In Case of Eye Contact: Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. Have eyes examined and tested by medical personnel.

In Case of Ingestion: No data available.

Indication of any immediate medical attention and special treatment needed: No data available.

5. Fire Fighting Measures

Suitable Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.

Unsuitable Extinguishing Media: A solid water stream may be inefficient.

Flammable Properties and Hazards: Emits toxic fumes under fire conditions. Not flammable or combustible.

Flash Pt: No data.

Autoignition Pt: No data available.

Explosive Limits: LEL: No data. UEL: No data.

Hazardous Combustion Products: No data available.

Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

6. Accidental Release Measures

Protective Precautions, Protective Equipment and Emergency Procedures: Avoid raising and breathing dust, and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

Environmental Precautions: Take steps to avoid release into the environment, if safe to do so.

Steps To Be Taken In Case Material Is Released Or Spilled: Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling and Storage

Precautions To Be Taken in Handling: Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.

Precautions To Be Taken in Storing: Keep container tightly closed. Store in accordance with information listed on the product insert.

SAFETY DATA SHEET  
Sodium Hydrogen Sulfide (hydrate)  

Hazard Label Information:  
Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.

8. Exposure Controls/Personal Protection

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>Other Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydrosulfide hydrate</td>
<td>207683-19-0</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>

Hazard Label Information:

- No data.
- No data.
- No data.

Hazardous Components (Chemical Name)  
CAS #  
Britain EH40  
France VL  
Europe

<table>
<thead>
<tr>
<th>8. Exposure Controls/Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>8. Exposure Controls/Personal Protection</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Protective Equipment Summary - Hazard Label Information:</th>
<th>Compatible chemical-resistant gloves</th>
<th>Eye wash station in work area</th>
<th>Lab coat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Controls (Ventilation etc.):</td>
<td>Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eye Protection:</td>
<td>Safety glasses and face shield</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protective Gloves:</td>
<td>Compatible chemical-resistant gloves</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Protective Clothing:</td>
<td>Full protective clothing or suit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory Equipment (Specify Type):</td>
<td>NIOSH approved respirator, as conditions warrant.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work/Hygienic/Maintenance Practices:</td>
<td>Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Wash thoroughly after handling.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Environmental Exposure Controls:  
No data available.

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Physical States:</th>
<th>[ ] Gas</th>
<th>[ ] Liquid</th>
<th>[X] Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance and Odor:</td>
<td>A crystalline solid.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melting Point:</td>
<td>53.00 C - 56.00 C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boiling Point:</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash Pt:</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate:</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure (vs. Air or mm Hg):</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor Density (vs. Air = 1):</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity (Water = 1):</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility in Water:</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility Notes:</td>
<td>~10 mg/ml in PBS (pH 7.2); ~3 mg/ml in EtOH, DMF &amp; DMSO;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autoignition Pt:</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explosive Properties:</td>
<td>No data available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxidizing Properties:</td>
<td>No data available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Information</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent Volatile:</td>
<td>No data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formula:</td>
<td>HNaS · XH2O</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molecular Weight:</td>
<td>56.10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Multi-region format
10. Stability and Reactivity

Reactivity: No data available.

Stability: Unstable [ ] Stable [ X ]

Stability Note(s): Stable if stored in accordance with information listed on the product insert.

Conditions To Avoid: protect from moisture

Polymerization: Will occur [ ] Will not occur [ X ]

Incompatibility - Materials To Avoid: acids, aluminium, copper, copper alloys, strong oxidizing agents, zinc

Hazardous Decomposition Or Byproducts: nitrogen oxides, sulfur oxides

11. Toxicological Information

Toxicological Information: The toxicological effects of this product have not been thoroughly studied.

Chronic Toxicological Effects: n.a.n.a.n.a.

12. Ecological Information

General Ecological Information: Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.

13. Disposal Considerations

Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

14. Transport Information

Globally Harmonized System of Classification and Labelling

Skin Corrosion/Irritation, Category 1B - Danger! Causes severe skin burns and eye damage

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name: Sodium hydrosulfide hydrate

DOT Hazard Class: 8

DOT Hazard Label: CORROSIVE

UN/NA Number: 2949

Packing Group: II

LAND TRANSPORT (European ADR/RID)

ADR/RID Shipping Name: Sodium hydrosulfide hydrate

UN Number: 2949

Hazard Class: 8 - CORROSIVE

Packing Group: II

AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Shipping Name: Sodium hydrosulfide hydrate

UN Number: 2949

Hazard Class: 8 - CORROSIVE
Sodium Hydrogen Sulfide (hydrate)

**SAFETY DATA SHEET**

**Packing Group:** II  
**IATA Classification:** 8  
**Additional Transport Information:** Transport in accordance with local, state, and federal regulations.

## 15. Regulatory Information

### European Community Hazard Symbol codes
- C: Corrosive; Xn: Harmful

### European Community Risk and Safety Phrases
- **R31** - Contact with acids liberates toxic gas.  
- **R34** - Causes burns.  
- **S24/25** - Avoid contact with skin and eyes.  
- **S26** - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
- **S36/37/39** - Wear suitable protective clothing, gloves and eye/face protection.  
- **S45** - In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible.)  
- **S50A** - Do not mix with acids.

### US EPA SARA Title III

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>Sec.302 (EHS)</th>
<th>Sec.304 RQ</th>
<th>Sec.313 (TRI)</th>
<th>Sec.110</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydrosulfide hydrate</td>
<td>207683-19-0</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

### Other US EPA or State Lists

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>CAA HAP,ODC</th>
<th>CWA NPDES</th>
<th>TSCA</th>
<th>CA PROP.65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydrosulfide hydrate</td>
<td>207683-19-0</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

### Regulatory Information Statement

## 16. Other Information

**Revision Date:** 03/11/2013

**Company Policy or Disclaimer**

For research use only, not for human or veterinary use.

DISCLAIMER: This information 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.

N.A.=Not available, N.P.=Not applicable, N.D.=Not determined, N.E.=Not established, N.R.=Not required