SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Identification of the product

Product Description Sodium Hydrogen Sulphide, anhydrous
Pure Substance/preparation Substance
CAS-No 16721-80-5
EC number 240-778-0

Reach Registration number A registration number is not available for this substance as the substance or its uses may be exempted or annual tonnage does not require.

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Recommended use Laboratory chemical, Manufacture of substances
Uses advised against No uses advised against has been identified

1.3 Details of the Supplier of the Safety Data Sheet

Supplier
UPL Limited
Uniphos House, Madhu Park,
Khar (W), Mumbai, India
Tel: +91-(022)- 2646-8000

Telephone +91-(022)- 2646-8000
E-mail address info.in@uniphos.com

1.4 Emergency Telephone Number

Emergency telephone number +91-(022)- 2646-8000 (From 9:00 A.M. to 5:00 P.M.)

2. Hazard Identification

2.1 Classification of the substance or Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable Solid Category 2 - (H228)
Self-heating substances and mixtures  Category 1 - (H251)
Acute toxicity - (Oral)  Category 3 - (H301)
Skin corrosion/Irritation  Category 1 - (H314)
Serious eye damage/eye irritation  Category 1 - (H318)
STOT - Single Exposure  Category 2 - (H371)
STOT - Single Exposure  Category 3 - (H335)
Aquatic Acute Hazard  Category 1 - (H400)

### 2.2 Label elements

![Hazard Symbols]

**Signal Word**

**DANGER**

**Hazard Statement**

- **H228** Flammable Solid
- **H251** Self-heating; may catch fire
- **H301** Toxic if swallowed
- **H314** Causes severe skin burns and eye damage
- **H371** May cause damage to organs (respiratory system)
- **H335** May cause respiratory irritation
- **H400** Very toxic to aquatic life

**Precautionary Statements**

**Prevention**

- **P235+P410** Keep cool. Protect from sunlight.
- **P240** Ground/Bond container and receiving equipment.
- **P241** Use explosion-proof electrical/ventilating/lightning/…/equipment.
- **P280** Wear protective gloves/protective clothing/eye protection/face protection.
- **P264** Wash thoroughly … after handling.
- **P270** Do not eat, drink or smoke when using this product.
- **P260** Do not breathe dust or mist.
- **P271** Use only outdoors or in a well-ventilated area.

**Response**

- **P308+P311** IF exposed or concerned : Get medical advice attention.
- **P370+P378** In case of fire: Use Water, CO₂ or foam to extinguish.
- **P301+P330+P331** IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.
- **P303+P361+P353** IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- **P363** Wash contaminated clothing before reuse.
- **P304+P340** IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- **P310** Immediately call a POISON CENTER or doctor/physician if you feel unwell.
- **P321** Specific treatment (see … on this label)
- **P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Storage**

- **P407** Maintain air gap between stacks/pellet
- **P420** Store away from other material.
- **P405** Store locked up
Disposal
P501 Dispose of contents/container in accordance with local/regional/national/international regulation

Supplementary Hazard
None

2.3 Other hazards

The substance does not meet the criteria for a PBT or vPvB substance.

3. Composition/information on Ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No</th>
<th>EC No</th>
<th>Weight %</th>
<th>EU - GHS Substance Classification (REGULATION (EC) No 1272/2008)</th>
<th>REACH No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium hydrogen sulphide</td>
<td>16721-80-5</td>
<td>240-778-0</td>
<td>&lt;=100</td>
<td>Flam sol.; 2 Self-heating substance.; 1 Acute Oral Tox; 3 Skin Corr.; 1, Eye Dam.; 1 Aq acute 1.; H228, H251, H301, H314, H318, H371, H335, H400</td>
<td>no data available</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16

4. First aid measures

4.1 Description of first-aid measures

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

Eye contact
IF IN EYES: Rinse cautiously with water for 15-30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If you feel unwell call a POISON CENTER or doctor/physician.

Skin contact
Wash off with soap and plenty of water for at least 15-30 minutes. Immediately take off contaminated clothing and shoes before reuse or discard if they cannot be thoroughly cleaned. If skin irritation or rash develops, get medical attention.

Ingestion
Never give anything by mouth to an unconscious person. Rinse mouth. Do not induce vomiting unless told by physician. If vomiting occurs ensure patient can breathe. Get immediate medical attention.

Inhalation
IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
**Indication of immediate medical attention and special treatment needed**
Treat symptomatically and supportively.

### 5. Fire-fighting measures

**5.1 Extinguishing media**

- **Suitable extinguishing media**: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- **Unsuitable extinguishing media**: Do not use high pressure water jets as it may scatter the fire.

**5.2 Special hazards arising from the substance or mixture**

- **Special Hazard**: Thermal decomposition can lead to release of irritating/toxic gases and vapors. Keep product and empty container away from heat and sources of ignition. Hazardous decomposition products formed under fire conditions: Carbon Oxides, Hydrogen sulfide

**5.3 Advice for Firefighters**

Wear self-contained breathing apparatus and protective suit. In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of involved material.

### 6. Accidental release measures

**6.1 Personal precautions, protective equipment and emergency procedures**

Avoid dust formation. Avoid breathing dust/mist. Wear respiratory protection. Wear protective gloves/protective clothing/eye protection/face protection. Ensure adequate ventilation. Evacuate personnel to safe areas. Wear suitable protective equipment (See section 8)

**6.2 Environmental Precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**6.3 Methods and materials for containment and cleaning up**

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

### 7. Handling and Storage

**7.1 Precautions for Safe Handling**

**7.1.1 Handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Keep away from sources of ignition - No
smoking. Keep dust level to minimum. Minimize dust generation. Ground/Bond container and receiving equipment. Use explosion-proof electrical/ventilating/lightning/./equipment. Wear protective equipment (See section 8.2)

7.1.2 Hygiene measures

Wash thoroughly after handling. Keep away from food, drink and animal feeding stuffs. Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Store locked up. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end uses

Laboratory chemical, Manufacture of substances.

8. Exposure Controls/ Personal Protection

8.1 Control Parameters

<table>
<thead>
<tr>
<th>Exposure Limits</th>
<th>Apply technical measures to comply with the occupational exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Derived No Effect level (DNEL)</td>
<td>No information available</td>
</tr>
<tr>
<td>Predicted No Effect Concentration</td>
<td>No information available</td>
</tr>
</tbody>
</table>

8.2 Exposure Controls

<table>
<thead>
<tr>
<th>Appropriate Engineering Control</th>
<th>Ensure adequate ventilation, especially in confined areas. If applicable, use process enclosure, local exhaust ventilation, or other engineering controls to maintain airborne level below recommended exposure limits. If exposure limits have not been established maintain airborne levels to acceptable level.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal protective equipment</td>
<td></td>
</tr>
<tr>
<td>Eye protection</td>
<td>Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH(US) or EN 166(EU)</td>
</tr>
<tr>
<td>Skin protection</td>
<td>Long-sleeved clothing. Preventative skin protection is recommended.</td>
</tr>
<tr>
<td>Hand protection</td>
<td>Wear suitable protective glove/clothing. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.</td>
</tr>
<tr>
<td>Respiratory protection</td>
<td>When workers are facing concentrations above the exposure limit they must use appropriate certified respirators</td>
</tr>
</tbody>
</table>

Environmental exposure controls Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties
Appearance  Rhombohedric-cubic crystals
Physical state  Solid
Odor  Characteristic
Odor threshold  0.0047 ppm

<table>
<thead>
<tr>
<th>Property</th>
<th>VALUES</th>
<th>Remarks/ Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>350°C</td>
<td></td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>100°C</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability or explosive limits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Relative Density</td>
<td>1.8 g/cm³</td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure (air = 1)</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>Soluble</td>
<td></td>
</tr>
<tr>
<td>Solubility in Other Solvents</td>
<td>Soluble in alcohol, ether</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>decomposition temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Viscosity Kinematics</td>
<td>No information available</td>
<td></td>
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<tr>
<td>Viscosity Dynamics</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information available</td>
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</tr>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>

9.2 OTHER INFORMATION

VOC Content  No information available

10. Stability and Reactivity

10.1 Reactivity

No relevant information available.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reaction

None under normal processing.

10.4 Conditions to avoid

Keep away from heat, flame or spark.

10.5 Incompatible Material

No relevant information available.
10.6 Hazardous Decomposition Products

Hazardous decomposition products formed under fire conditions:
Carbon oxides, Hydrogen sulfide

11. Toxicological Information

11.1 Information on Toxicological Effects

Acute toxicity

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydrogen sulphide</td>
<td>96mg/kg</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>16721-80-5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Local effect

- Inhilation: Based on available data, the classification criteria are not met.
- Eye contact: Causes serious eye damage.
- Skin contact: Causes severe skin burns.
- Ingestion: Toxic if swallowed.

Chronic toxicity

- Skin Corrosion/Irritation: Causes severe skin burns.
- Eye damage/irritation: Causes serious eye damage.
- Sensitization: Based on available data, the classification criteria are not met.
- Mutagenic effects: Based on available data, the classification criteria are not met.
- Carcinogenic effects: Based on available data, the classification criteria are not met.
- Reproductive effects: Based on available data, the classification criteria are not met.
- STOT - Single Exposure: May cause damage to organs (respiratory system)
- STOT - repeated exposure: May cause respiratory tract irritation.
- Aspiration hazard: Based on available data, the classification criteria are not met.

12. Ecological Information

12.1 Ecotoxicity

Very toxic to aquatic life.

LC50/Fish/96hr = 0.0071 - 0.55 mg/l (Fathead minnows)

12.2 Persistence and Degradability

No information available

12.3 Bioaccumulative Potential

No information available
Log Pow = -3.5

12.4 Mobility in Soil
No information available

12.5 Results of PBT and vPvB Assessment

This substance does not meet the criteria for a PBT or vPvB substance.

12.6 Other Adverse Effects

No other adverse effects identified.

13. Disposal Considerations

13.1 Waste Treatment Methods

<table>
<thead>
<tr>
<th>Waste from Residues / Unused Products</th>
<th>Disposal should be in accordance with applicable regional, national and local laws and regulations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contaminated packaging</td>
<td>Do not reuse empty containers. Dispose of this container to hazardous or special waste collection point.</td>
</tr>
</tbody>
</table>

14. Transport Information

ADR/RID

<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN 2318</th>
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</thead>
<tbody>
<tr>
<td>Proper Shipping name</td>
<td>Sodium hydrosulfide</td>
</tr>
<tr>
<td>Hazard class</td>
<td>4.2</td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>Yes</td>
</tr>
</tbody>
</table>

IMDG/IMO

<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN 3082</th>
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<tbody>
<tr>
<td>Proper Shipping name</td>
<td>Sodium hydrosulfide</td>
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<tr>
<td>Hazard class</td>
<td>4.2</td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
</tr>
<tr>
<td>EMS No.</td>
<td>F-A,S-J</td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>Yes</td>
</tr>
</tbody>
</table>

IATA/ICAO

<table>
<thead>
<tr>
<th>UN-No</th>
<th>UN 2318</th>
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<td>II</td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>Yes</td>
</tr>
</tbody>
</table>

15. Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

International Inventories
15.2 Chemical safety assessment
A chemical safety assessment has not been carried out.

16. Other Information

Full text of H-Statements referred to under sections 2 and 3.

H228 Flammable Solid
H251 Self-heating; may catch fire
H314 Causes severe skin burns and eye damage
H318 Causes serious eye damage
H371 May causes damage to organs (respiratory system)
H335 May cause respiratory irritation
H301 Toxic if swallowed
H400 Very toxic to aquatic life

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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End of Safety Data Sheet