1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name: Sodium sulfide nonahydrate
Product Number: 208043
Brand: Sigma-Aldrich
Index-No.: 016-009-00-8
REACH No.: A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

CAS-No.: 1313-84-4

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company: Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO  63103
USA
Telephone: +1 800-325-5832
Fax: +1 800-325-5052

1.4 Emergency telephone number

Emergency Phone #: (314) 776-6555

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Dermal (Category 3), H311
Skin corrosion (Category 1B), H314
Serious eye damage (Category 1), H318
Acute aquatic toxicity (Category 1), H400
Chronic aquatic toxicity (Category 1), H410

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

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word: Danger

Hazard statement(s)
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H410 Very toxic to aquatic life with long lasting effects.
Precautionary statement(s)

P260 Do not breathe dust or mist.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/ physician.
P322 Specific measures (see supplemental first aid instructions on this label).
P361 Remove/Take off immediately all contaminated clothing.
P363 Wash contaminated clothing before reuse.
P391 Collect spillage.
P405 Store locked up.
P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disodium sulphide nonahydrate</td>
<td>Acute Tox. 4; Acute Tox. 3; Skin Corr. 1B; Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 1; H302, H311, H314, H410</td>
<td>-</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
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.
If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

4.3 **Indication of any immediate medical attention and special treatment needed**
no data available

### 5. FIREFIGHTING MEASURES

5.1 **Extinguishing media**
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 **Special hazards arising from the substance or mixture**
Sulphur oxides, Sodium oxides

5.3 **Advice for firefighters**
Wear self contained breathing apparatus for fire fighting if necessary.

5.4 **Further information**
no data available

### 6. ACCIDENTAL RELEASE MEASURES

6.1 **Personal precautions, protective equipment and emergency procedures**
Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection 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**
For disposal see section 13.

### 7. HANDLING AND STORAGE

7.1 **Precautions for safe handling**
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 **Conditions for safe storage, including any incompatibilities**
Keep container tightly closed in a dry and well-ventilated place.
Recommended storage temperature: 2 - 8 °C
Product is sensitive to light and moisture.

7.3 **Specific end use(s)**
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 **Control parameters**
Contains no substances with occupational exposure limit values.
8.2 Exposure controls

Appropriate engineering controls
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. 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.

Full contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
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

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>a)</td>
<td>Appearance</td>
</tr>
<tr>
<td></td>
<td>Form: crystalline</td>
</tr>
<tr>
<td></td>
<td>Colour: colourless</td>
</tr>
<tr>
<td>b)</td>
<td>Odour</td>
</tr>
<tr>
<td></td>
<td>no data available</td>
</tr>
<tr>
<td>c)</td>
<td>Odour Threshold</td>
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<td></td>
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</tr>
<tr>
<td>d)</td>
<td>pH</td>
</tr>
<tr>
<td></td>
<td>no data available</td>
</tr>
<tr>
<td>e)</td>
<td>Melting point/freezing point</td>
</tr>
<tr>
<td></td>
<td>no data available</td>
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<tr>
<td>f)</td>
<td>Initial boiling point and boiling range</td>
</tr>
<tr>
<td></td>
<td>no data available</td>
</tr>
<tr>
<td>g)</td>
<td>Flash point</td>
</tr>
<tr>
<td></td>
<td>no data available</td>
</tr>
</tbody>
</table>
h) Evaporation rate  
  no data available

i) Flammability (solid, gas)  
  no data available

j) Upper/lower flammability or explosive limits  
  no data available

k) Vapour pressure  
  no data available

l) Vapour density  
  no data available

m) Relative density  
  1.427 g/cm³

n) Water solubility  
  no data available

o) Partition coefficient: n-octanol/water  
  no data available

p) Auto-ignition temperature  
  no data available

q) Decomposition temperature  
  no data available

r) Viscosity  
  no data available

s) Explosive properties  
  no data available

t) Oxidizing properties  
  no data available

9.2 **Other safety information**
no data available

---

10. **STABILITY AND REACTIVITY**

10.1 **Reactivity**
no data available

10.2 **Chemical stability**
Stable under recommended storage conditions.

10.3 **Possibility of hazardous reactions**
no data available

10.4 **Conditions to avoid**
Exposure to light may affect product quality. Exposure to moisture may affect product quality.

10.5 **Incompatible materials**
Acids, Oxidizing agents, Aluminum, Copper, Zinc, and its alloys

10.6 **Hazardous decomposition products**
Other decomposition products - no data available
In the event of fire: see section 5

---

11. **TOXICOLOGICAL INFORMATION**

11.1 **Information on toxicological effects**

**Acute toxicity**
no data available
Inhalation: Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
no data available

**Skin corrosion/irritation**
no data available

**Serious eye damage/eye irritation**
no data available
Respiratory or skin sensitisation
no data available

Germ cell mutagenicity
no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
no data available

Specific target organ toxicity - single exposure
no data available

Specific target organ toxicity - repeated exposure
no data available

Aspiration hazard
no data available

Additional Information
RTECS: WE1925000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

Liver - Irregularities - Based on Human Evidence
Liver - Irregularities - Based on Human Evidence

12. ECOLOGICAL INFORMATION

12.1 Toxicity
no data available

12.2 Persistence and degradability
no data available

12.3 Bioaccumulative potential
no data available

12.4 Mobility in soil
no data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
14. TRANSPORT INFORMATION

**DOT (US)**
- UN number: 1849
- Class: 8
- Packing group: II
- Proper shipping name: Sodium sulfide, hydrated
- Marine pollutant: No
- Poison Inhalation Hazard: No

**IMDG**
- UN number: 1849
- Class: 8
- Packing group: II
- EMS-No: F-A, S-B
- Proper shipping name: SODIUM SULPHIDE, HYDRATED
- Marine pollutant: No

**IATA**
- UN number: 1849
- Class: 8
- Packing group: II
- Proper shipping name: Sodium sulphide, hydrated

15. REGULATORY INFORMATION

**REACH No.**
- A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

**SARA 302 Components**
- SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**
- SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**
- Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**
- Disodium sulphide nonahydrate
  - CAS-No.: 1313-84-4
  - Revision Date: 2007-03-01

**Pennsylvania Right To Know Components**
- Disodium sulphide nonahydrate
  - CAS-No.: 1313-84-4
  - Revision Date: 2007-03-01

**New Jersey Right To Know Components**
- Disodium sulphide nonahydrate
  - CAS-No.: 1313-84-4
  - Revision Date: 2007-03-01

**California Prop. 65 Components**
- This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

<table>
<thead>
<tr>
<th>Component</th>
<th>Hazard</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disodium sulphide nonahydrate</td>
<td>Acute toxicity</td>
<td>1313-84-4</td>
<td>2007-03-01</td>
</tr>
<tr>
<td>Disodium sulphide nonahydrate</td>
<td>Toxic in contact with skin</td>
<td>1313-84-4</td>
<td>2007-03-01</td>
</tr>
<tr>
<td>Disodium sulphide nonahydrate</td>
<td>Serious eye damage</td>
<td>1313-84-4</td>
<td>2007-03-01</td>
</tr>
<tr>
<td>Disodium sulphide nonahydrate</td>
<td>Harmful if swallowed</td>
<td>1313-84-4</td>
<td>2007-03-01</td>
</tr>
<tr>
<td>Disodium sulphide nonahydrate</td>
<td>Causes severe skin burns and eye damage</td>
<td>1313-84-4</td>
<td>2007-03-01</td>
</tr>
<tr>
<td>Disodium sulphide nonahydrate</td>
<td>Causes serious eye damage</td>
<td>1313-84-4</td>
<td>2007-03-01</td>
</tr>
<tr>
<td>Disodium sulphide nonahydrate</td>
<td>Very toxic to aquatic life</td>
<td>1313-84-4</td>
<td>2007-03-01</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.
HMIS Rating
Health hazard: 3
Chronic Health Hazard: *
Flammability: 0
Physical Hazard 0

NFPA Rating
Health hazard: 3
Fire Hazard: 0
Reactivity Hazard: 0

Further information
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