SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

<table>
<thead>
<tr>
<th>Identification of the substance</th>
<th>Sodium sulphide hydrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Article number</td>
<td>8634</td>
</tr>
<tr>
<td>Registration number (REACH)</td>
<td>This information is not available.</td>
</tr>
<tr>
<td>Index No</td>
<td>016-009-00-8</td>
</tr>
<tr>
<td>EC number</td>
<td>215-211-5</td>
</tr>
<tr>
<td>CAS number</td>
<td>27610-45-3</td>
</tr>
</tbody>
</table>

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

Identified uses: laboratory chemical

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany

TelephoneNumber: +49 (0) 721 - 56 06 0
Telefax: +49 (0) 721 - 56 06 149
e-mail: sicherheit@carlroth.de
Website: www.carlroth.de

Competent person responsible for the safety data sheet: Department Health, Safety and Environment
e-mail (competent person): sicherheit@carlroth.de

1.4 Emergency telephone number

Emergency information service: Poison Centre Munich: +49/(0)89 19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

<table>
<thead>
<tr>
<th>Classification acc. to GHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>3.1O</td>
</tr>
<tr>
<td>3.1D</td>
</tr>
<tr>
<td>3.2</td>
</tr>
<tr>
<td>3.3</td>
</tr>
</tbody>
</table>
For full text of Hazard- and EU Hazard-statements: see SECTION 16.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

<table>
<thead>
<tr>
<th>Signal word</th>
<th>Danger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pictograms</td>
<td><img src="image" alt="Pictogram" /></td>
</tr>
</tbody>
</table>

**Hazard statements**

- H301+H311: Toxic if swallowed or in contact with skin.
- H314: Causes severe skin burns and eye damage.

**Precautionary statements**

**Precautionary statements - prevention**

- P260: Do not breathe dust/fume/gas/mist/vapours/spray.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.

**Precautionary statements - response**

- P301+P310: IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.
- P302+P352: IF ON SKIN: Wash with plenty of water.
- P303+P361+P353: IF ON SKIN (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Labelling of packages where the contents do not exceed 125 ml**

<table>
<thead>
<tr>
<th>Signal word: Danger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbol(s)</td>
</tr>
</tbody>
</table>

- H301+H311: Toxic if swallowed or in contact with skin.
- H314: Causes severe skin burns and eye damage.

- P303+P361+P353: IF ON SKIN (or hair): take off immediately all contaminated clothing. Rinse skin with water/shower.
- P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3 Other hazards

There is no additional information.
Take off immediately all contaminated clothing. Self-protection of the first aider.

Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

After contact with skin, wash immediately with plenty of water. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye.

Rinse mouth immediately and drink plenty of water. If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects). Call a physician immediately.

Irritation, Corrosion, Headache, Vertigo, Nausea, Vomiting, Unconsciousness, Narcosis, Risk of blindness

SECTION 3: Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>Sodium sulphide hydrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index No</td>
<td>016-009-00-8</td>
</tr>
<tr>
<td>EC number</td>
<td>215-211-5</td>
</tr>
<tr>
<td>CAS number</td>
<td>27610-45-3</td>
</tr>
<tr>
<td>Molecular formula</td>
<td>Na₂S * x H₂O</td>
</tr>
<tr>
<td>Molar mass</td>
<td>78.04 g/mol</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1 Description of first aid measures

**General notes**
Take off immediately all contaminated clothing. Self-protection of the first aider.

**Following inhalation**
Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

**Following skin contact**
After contact with skin, wash immediately with plenty of water. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

**Following eye contact**
In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye.

**Following ingestion**
Rinse mouth immediately and drink plenty of water. If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects). Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed
Irritation, Corrosion, Headache, Vertigo, Nausea, Vomiting, Unconsciousness, Narcosis, Risk of blindness

4.3 Indication of any immediate medical attention and special treatment needed
none
**SECTION 5: Firefighting measures**

5.1 Extinguishing media

**Suitable extinguishing media**
- Co-ordinate fire-fighting measures to the fire surroundings
- water spray, foam, dry extinguishing powder, carbon dioxide (CO2)

**Unsuitable extinguishing media**
- water jet

5.2 Special hazards arising from the substance or mixture

Heating may cause an explosion. Spontaneous decomposition of the material.

**Hazardous combustion products**
- In case of fire may be liberated: sulphur oxides (SOx)

5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.

**SECTION 6: Accidental release measures**

6.1 Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel**
- Do not breathe dust. Do not breathe vapour/spray. Avoid contact with skin, eyes and clothes.
- Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

6.2 Environmental precautions

- Keep away from drains, surface and ground water.

6.3 Methods and material for containment and cleaning up

**Advises on how to contain a spill**
- Covering of drains.

**Advises on how to clean up a spill**
- Take up mechanically. Control of dust.

**Other information relating to spills and releases**
- Place in appropriate containers for disposal. Ventilate affected area.

**Reference to other sections**
- Hazardous combustion products: see section 5.
- Personal protective equipment: see section 8.
- Incompatible materials: see section 10.
- Disposal considerations: see section 13.
Section 7: Handling and Storage

7.1 Precautions for safe handling
Provide adequate ventilation as well as local exhaustion at critical locations. Handle and open container with care. Do not mix with acids. Clear contaminated areas thoroughly.

Advice on general occupational hygiene
When using do not eat or drink. Thorough skin-cleansing after handling the product.

7.2 Conditions for safe storage, including any incompatibilities
Store in a well-ventilated place. Keep container tightly closed.

Incompatible substances or mixtures
Observe hints for combined storage.

Consideration of other advice
Keep only in original container. Store locked up.

• Ventilation requirements
Use local and general ventilation.

• Specific designs for storage rooms or vessels
Recommended storage temperature: 20 - 25 °C.

7.3 Specific end use(s)
No information available.

Section 8: Exposure controls/personal protection

8.1 Control parameters
National limit values
Occupational exposure limit values (Workplace Exposure Limits)

8.2 Exposure controls
Individual protection measures (personal protective equipment)

Eye/face protection
Use safety goggle with side protection. Wear face protection.

Skin protection
• hand protection
Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

• type of material
NBR (Nitrile rubber)
Sodium sulphide hydrate  60%, in flakes

article number: 8634

• material thickness
0.4 mm.

• breakthrough times of the glove material
>480 minutes (permeation: level 6)

• other protection measures
Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P3 (filters at least 99.95 % of airborne particles, colour code: White). Aerosol or mist formation. Type: B-P2 (combined filters for acidic gases and particles, colour code: Grey/White). Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190).

Environmental exposure controls
Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance
Physical state solid (scales)
Colour whitish yellow
Odour like rotten eggs
Odour threshold No data available

Other physical and chemical parameters
pH (value) 13 - 14 (water: 10 g/l, 20 °C)
Melting point/freezing point 85 - 90 °C
Initial boiling point and boiling range This information is not available.
Flash point not applicable
Evaporation rate no data available
Flammability (solid, gas) These information are not available

Explosive limits
• lower explosion limit (LEL) this information is not available
• upper explosion limit (UEL) this information is not available
Explosion limits of dust clouds these information are not available
Vapour pressure This information is not available.
Density 1.43 g/cm³
Vapour density This information is not available.
Bulk density 600 - 750 kg/m³
Relative density Information on this property is not available.
Sodium sulphide hydrate  60%, in flakes

Solubility(ies)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water solubility</td>
<td>170 g/l at 20 °C</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td></td>
</tr>
<tr>
<td>n-octanol/water (log KOW)</td>
<td>-3.5 (OECD-107)</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Information on this property is not available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>no data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>not relevant (solid matter)</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>heating may cause an explosion</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>none</td>
</tr>
</tbody>
</table>

9.2 Other information
There is no additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity
Contact with acids liberates toxic gas. May be corrosive to metals.

10.2 Chemical stability
The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions
Dangerous/dangerous reactions with: Strong oxidiser, Metals, Acids

10.4 Conditions to avoid
Keep away from heat.

10.5 Incompatible materials
aluminium, iron, zinc, copper

10.6 Hazardous decomposition products
Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Exposure route</th>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>oral</td>
<td>LD50</td>
<td>208 mg/kg</td>
<td>rat</td>
<td>TOXNET</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation
Causes severe burns.
Causes serious eye damage.

Shall not be classified as a respiratory or skin sensitiser.

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

Shall not be classified as a specific target organ toxicant (single exposure).

Shall not be classified as a specific target organ toxicant (repeated exposure).

Shall not be classified as presenting an aspiration hazard.

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects), nausea, vomiting causes burns, Causes serious eye damage, risk of blindness

Other adverse effects: Headache, Unconsciousness, Narcosis, Nausea, Vertigo

**SECTION 12: Ecological information**

**12.1 Toxicity**
acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

**Aquatic toxicity (acute)**

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50</td>
<td>0.024 mg/l</td>
<td>Pimephales promelas</td>
<td>96 hours</td>
</tr>
<tr>
<td>EC50</td>
<td>2.1 mg/l</td>
<td>daphnia magna</td>
<td>48 hours</td>
</tr>
</tbody>
</table>

**12.2 Process of degradability**
The methods for determining the biological degradability are not applicable to inorganic substances.

**12.3 Bioaccumulative potential**
Does not significantly accumulate in organisms.

n-octanol/water (log KOW) -3.5
**Safety Data Sheet**

**According to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU**

**Sodium sulphide hydrate 60%, in flakes**

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**12.4 Mobility in soil**

Data are not available.

**12.5 Results of PBT and vPvB assessment**

Data are not available.

**12.6 Other adverse effects**

Hazardous to water.

---

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Sewage disposal-relevant information**

Do not empty into drains.

**Waste treatment of containers/packagings**

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

**13.2 Relevant provisions relating to waste**

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

**13.3 Remarks**

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

---

**SECTION 14: Transport information**

**14.1 UN number**

1849

**14.2 UN proper shipping name**

*SODIUM SULPHIDE, HYDRATED*

**Hazardous ingredients**

Sodium sulphide hydrate

**14.3 Transport hazard class(es)**

- **Class** 8 (corrosive substances)

**14.4 Packing group**

II (substance presenting medium danger)

**14.5 Environmental hazards**

hazardous to the aquatic environment

**14.6 Special precautions for user**

Provisions for dangerous goods (ADR) should be complied within the premises.

**14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code**

The cargo is not intended to be carried in bulk.

**14.8 Information for each of the UN Model Regulations**

- **Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)**

  - **UN number** 1849
  - **Proper shipping name** SODIUM SULPHIDE, HYDRATED
  - **Particulars in the transport document** UN1849, SODIUM SULPHIDE, HYDRATED, 8, II, (E), environmentally hazardous
  - **Class** 8
  - **Classification code** C6
  - **Packing group** II
Sodium sulphide hydrate 60%, in flakes

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td>1849</td>
</tr>
<tr>
<td>Proper shipping name</td>
<td>SODIUM SULPHIDE, HYDRATED</td>
</tr>
<tr>
<td>Particulars in the shipper's declaration</td>
<td>UN1849, SODIUM SULPHIDE, HYDRATED, 8, II, MARINE POLLUTANT</td>
</tr>
<tr>
<td>Class</td>
<td>8</td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>yes (hazardous to the aquatic environment)</td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
</tr>
<tr>
<td>Danger label(s)</td>
<td>8 + &quot;fish and tree&quot;</td>
</tr>
<tr>
<td>Special provisions (SP)</td>
<td>-</td>
</tr>
<tr>
<td>Excepted quantities (EQ)</td>
<td>E2</td>
</tr>
<tr>
<td>Limited quantities (LQ)</td>
<td>1 kg</td>
</tr>
<tr>
<td>EmS</td>
<td>F-A, S-B</td>
</tr>
<tr>
<td>Stowage category</td>
<td>A</td>
</tr>
<tr>
<td>Segregation group</td>
<td>18 - Alkalis</td>
</tr>
</tbody>
</table>

safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU

The safety data sheet provides information about the hazardous properties of sodium sulphide hydrate 60%, in flakes, including its UN number, proper shipping name, and classification as a marine pollutant. It also outlines other relevant details such as special provisions and stowage categories, ensuring safe handling and transport.
Sodium sulphide hydrate 60%, in flakes

article number: 8634

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Relevant provisions of the European Union (EU)

• Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)
  Not listed.

• Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)
  Not listed.

• Regulation 850/2004/EC on persistent organic pollutants (POP)
  Not listed.

• Restrictions according to REACH, Annex XVII
  not listed

• List of substances subject to authorisation (REACH, Annex XIV)
  not listed

• Seveso Directive

Table: 2012/18/EU (Seveso III)

<table>
<thead>
<tr>
<th>No</th>
<th>Dangerous substance/hazard categories</th>
<th>Qualifying quantity (tonnes) for the application of lower and upper-tier requirements</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>environmental hazards (hazardous to the aquatic environment, cat. 1)</td>
<td>100 200</td>
<td>56)</td>
</tr>
</tbody>
</table>

Notation

56) Hazardous to the Aquatic Environment in category Acute 1 or Chronic 1

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II

not listed

 Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)

not listed

National inventories

Substance is listed in the following national inventories:

- EINECS/ELINCS/NLP (Europe)

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.
SECTION 16: Other information

Abbreviations and acronyms

<table>
<thead>
<tr>
<th>Abbr.</th>
<th>Descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)</td>
</tr>
<tr>
<td>ADR</td>
<td>Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)</td>
</tr>
<tr>
<td>CLP</td>
<td>Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures</td>
</tr>
<tr>
<td>CMR</td>
<td>Carcinogenic, Mutagenic or toxic for Reproduction</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Commercial Chemical Substances</td>
</tr>
<tr>
<td>ELINCS</td>
<td>European List of Notified Chemical Substances</td>
</tr>
<tr>
<td>EmS</td>
<td>Emergency Schedule</td>
</tr>
<tr>
<td>GHS</td>
<td>&quot;Globally Harmonized System of Classification and Labelling of Chemicals&quot; developed by the United Nations</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods Code</td>
</tr>
<tr>
<td>Index No</td>
<td>the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008</td>
</tr>
<tr>
<td>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships (abbr. of &quot;Marine Pollutant)</td>
</tr>
<tr>
<td>NLP</td>
<td>No-Longer Polymer</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>REACH</td>
<td>Registration, Evaluation, Authorisation and Restriction of Chemicals</td>
</tr>
<tr>
<td>RID</td>
<td>Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)</td>
</tr>
<tr>
<td>vPvB</td>
<td>very Persistent and very Bioaccumulative</td>
</tr>
</tbody>
</table>

Key literature references and sources for data
- Regulation (EC) No. 1272/2008 (CLP, EU GHS)

List of relevant phrases (code and full text as stated in chapter 2 and 3)

<table>
<thead>
<tr>
<th>Code</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>H301</td>
<td>toxic if swallowed</td>
</tr>
<tr>
<td>H311</td>
<td>toxic in contact with skin</td>
</tr>
<tr>
<td>H314</td>
<td>causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H318</td>
<td>causes serious eye damage</td>
</tr>
</tbody>
</table>
Disclaimer

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.