

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Trade name **Sodium hydrogen sulfide**

Stock number: 87389

CAS Number: 16721-80-5

EC number: 240-778-0

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

Identified use: SU24 Scientific research and development

**1.3 Details of the supplier of the safety data sheet**

Manufacturer/Supplier: Alfa Aesar GmbH & Co.KG  
A Johnson Matthey Company  
Zeppelinstr. 7b  
76185 Karlsruhe / Germany  
Tel: +49 (0) 721 84007 280  
Fax: +49 (0) 721 84007 300  
Email: tech@alfa.com  
www.alfa.com

Informing department:

**1.4 Emergency telephone number:**

Product safety Tel + +049 (0) 7275 988687-0  
Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)  
Poison Information Center Mainz  
www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Flam. Sol. 1 H228 Flammable solid.

Self-heat. 1 H251 Self-heating; may catch fire.



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

Acute Tox. 4 H332 Harmful if inhaled.

**Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

C; Corrosive

R34: Causes burns.

Xn; Harmful

R20/21/22: Harmful by inhalation, in contact with skin and if swallowed.



F; Highly flammable

R11: Highly flammable.

R31: Contact with acids liberates toxic gas.

**Information concerning particular hazards for human and environment:**

Other hazards that do not result in classification

Not applicable

No information known.

**2.2 Label elements**

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Hazard statements

The substance is classified and labelled according to the CLP regulation.

GHS02, GHS05, GHS07

Danger

H228 Flammable solid.

H251 Self-heating; may catch fire.

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H332 Harmful if inhaled.

H314 Causes severe skin burns and eye damage.

Precautionary statements

P210

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241

Use explosion-proof electrical/ventilating/lighting/equipment.

P303+P361+P353 IF ON SKIN (or hair): Remove/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.

P405

Store locked up.

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

EUH031 Contact with acids liberates toxic gas.

**2.3 Other hazards**

Results of PBT and vPvB assessment

PBT:

Not applicable.

vPvB:

Not applicable.

**SECTION 3: Composition/information on ingredients****3.1 Substances**

CAS# Designation: 16721-80-5 Sodium hydrogen sulfide

Identification number(s):

240-778-0

EC number:

**SECTION 4: First aid measures****4.1 Description of first aid measures**

General information

After inhalation

Instantly remove any clothing soiled by the product.

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact

Seek immediate medical advice.

Instantly wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

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After eye contact	Rinse opened eye for several minutes under running water. Then consult doctor.
After swallowing	Seek medical treatment.
4.2 Most important symptoms and effects, both acute and delayed	No further relevant information available.
4.3 Indication of any immediate medical attention and special treatment needed	No further relevant information available.

**SECTION 5: Firefighting measures**

5.1 Extinguishing media Suitable extinguishing agents For safety reasons unsuitable extinguishing agents	In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water. Water.
5.2 Special hazards arising from the substance or mixture	If this product is involved in a fire, the following can be released:
5.3 Advice for firefighters Protective equipment:	Wear self-contained breathing apparatus. Wear full protective suit.

**SECTION 6: Accidental release measures**

6.1 Personal precautions, protective equipment and emergency procedures	Put on breathing apparatus. Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation Keep away from ignition sources
6.2 Environmental precautions:	Do not allow product to reach sewage system or water bodies. Do not allow to enter the ground/soil.
6.3 Methods and material for containment and cleaning up:	Use neutralizing agent. Dispose of contaminated material as waste according to item 13. Ensure adequate ventilation.
Prevention of secondary hazards:	Keep away from ignition sources.
6.4 Reference to other sections	See Section 7 for information on safe handling See section 8 for information on personal protection equipment. See Section 13 for information on disposal.

**SECTION 7: Handling and storage**

7.1 Precautions for safe handling	Handle under dry protective gas. Keep containers tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation/exhaustion at the workplace.
Information about protection against explosions and fires:	Protect against electrostatic charges.
7.2 Conditions for safe storage, including any incompatibilities Storage Requirements to be met by storerooms and containers: Information about storage in one common storage facility:	Store in cool location. Do not store together with acids. Store away from water. Store away from strong bases.
Further information about storage conditions:	Store under dry inert gas. This product is hygroscopic. This product is moisture sensitive. Keep container tightly sealed. Store in cool, dry conditions in well sealed containers. Protect from humidity and keep away from water. Store in a locked cabinet or with access restricted to technical experts or their assistants.
7.3 Specific end use(s)	No further relevant information available.

**SECTION 8: Exposure controls/personal protection**

Additional information about design of technical systems:	Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
8.1 Control parameters Components with critical values that require monitoring at the workplace:	The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace. No data
Additional information:	
8.2 Exposure controls Personal protective equipment General protective and hygienic measures	The usual precautionary measures should be adhered to in handling the chemicals. Keep away from foodstuffs, beverages and food. Instantly remove any soiled and impregnated garments. Wash hands during breaks and at the end of the work. Avoid contact with the eyes and skin. Maintain an ergonomically appropriate working environment. Use breathing protection with high concentrations. Check protective gloves prior to each use for their proper condition. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
Breathing equipment:	
Protection of hands:	Impervious gloves Not determined
Material of gloves	Tightly sealed safety glasses.
Penetration time of glove material	Full face protection
Eye protection:	Protective work clothing.
Body protection:	

**SECTION 9: Physical and chemical properties**

9.1 Information on basic physical and chemical properties General Information Appearance:	
Form:	Crystalline

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<b>Colour:</b>	Off-white
<b>Smell:</b>	Like rotten eggs
<b>Odour threshold:</b>	Not determined.
<b>pH-value:</b>	Not applicable.

<b>Change in condition</b>	
<b>Melting point/Melting range:</b>	350 °C
<b>Boiling point/Boiling range:</b>	Not determined
<b>Sublimation temperature / start:</b>	Not determined
<b>Inflammability (solid, gaseous)</b>	Highly flammable.
<b>Ignition temperature:</b>	Not determined
<b>Decomposition temperature:</b>	Not determined
<b>Self-inflammability:</b>	Not determined.
<b>Critical values for explosion:</b>	
<b>Lower:</b>	Not determined
<b>Upper:</b>	Not determined
<b>Steam pressure:</b>	Not applicable.
<b>Density at 20 °C</b>	1,79 g/cm <sup>3</sup>
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Soluble
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>dynamic:</b>	Not applicable.
<b>kinematic:</b>	Not applicable.
<b>9.2 Other information</b>	No further relevant information available.

**SECTION 10: Stability and reactivity**

<b>10.1 Reactivity</b>	Contact with acids liberates toxic gas.
<b>10.2 Chemical stability</b>	Stable under recommended storage conditions.
<b>Thermal decomposition / conditions to be avoided:</b>	No decomposition if used and stored according to specifications.
<b>10.3 Possibility of hazardous reactions</b>	No dangerous reactions known
<b>10.5 Incompatible materials:</b>	Water/moisture Bases Acids

**SECTION 11: Toxicological information**

<b>11.1 Information on toxicological effects</b>	
<b>Acute toxicity:</b>	Harmful if inhaled. Harmful in contact with skin. Harmful if swallowed. Danger by skin resorption. Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach. The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.
<b>LD/LC50 values that are relevant for classification:</b>	No data
<b>Skin irritation or corrosion:</b>	Causes severe skin burns.
<b>Eye irritation or corrosion:</b>	Causes serious eye damage.
<b>Sensitization:</b>	No sensitizing effect known.
<b>Germ cell mutagenicity:</b>	The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.
<b>Carcinogenicity:</b>	No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
<b>Reproductive toxicity:</b>	No effects known.
<b>Specific target organ system toxicity - repeated exposure:</b>	No effects known.
<b>Specific target organ system toxicity - single exposure:</b>	No effects known.
<b>Aspiration hazard:</b>	No effects known.
<b>Experience with humans:</b>	The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.
<b>Additional toxicological information:</b>	To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

**SECTION 12: Ecological information**

<b>12.1 Toxicity</b>	
<b>Aquatic toxicity:</b>	No further relevant information available.
<b>12.2 Persistence and degradability</b>	No further relevant information available.
<b>12.3 Bioaccumulative potential</b>	No further relevant information available.
<b>12.4 Mobility in soil</b>	No further relevant information available.
<b>Additional ecological information:</b>	
<b>General notes:</b>	Water hazard class 1 (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system. Avoid transfer into the environment.
<b>12.5 Results of PBT and vPvB assessment</b>	
<b>PBT:</b>	Not applicable.
<b>vPvB:</b>	Not applicable.
<b>12.6 Other adverse effects</b>	No further relevant information available.

**SECTION 13: Disposal considerations**

<b>13.1 Waste treatment methods</b>	
<b>Recommendation</b>	Hand over to disposers of hazardous waste. Must be specially treated under adherence to official regulations. Consult state, local or national regulations for proper disposal.
<b>Uncleaned packagings:</b>	
<b>Recommendation:</b>	Disposal must be made according to official regulations.
<b>Recommended cleaning agent:</b>	Water, if necessary with cleaning agent.

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**SECTION 14: Transport information**

<b>UN-Number ADR, IMDG, IATA</b>	UN2318
<b>14.2 UN proper shipping name ADR IMDG, IATA</b>	2318 SODIUM HYDROSULPHIDE SODIUM HYDROSULPHIDE
<b>14.3 Transport hazard class(es) ADR</b>	
	
<b>Class Label IMDG, IATA</b>	4.2 (S4) Substances liable to spontaneous combustion. 4.2
	
<b>Class Label</b>	4.2 Substances liable to spontaneous combustion. 4.2
<b>Packing group ADR, IMDG, IATA</b>	II
<b>14.5 Environmental hazards:</b>	Not applicable.
<b>14.6 Special precautions for user Kemler Number: Segregation groups</b>	Warning: Substances liable to spontaneous combustion. 40 Alkalis
<b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
<b>Transport/Additional information:</b>	
<b>ADR Excepted quantities (EQ): Limited quantities (LQ) Transport category Tunnel restriction code</b>	E2 0 2 D/E
<b>UN "Model Regulation":</b>	UN2318, SODIUM HYDROSULPHIDE, 4.2, II

**SECTION 15: Regulatory information**

<b>15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture</b>	
<b>Australian Inventory of Chemical Substances</b>	Substance is listed.
<b>Standard for the Uniform Scheduling of Drugs and Poisons</b>	Substance is not listed.
<b>National regulations</b>	
<b>Information about limitation of use:</b>	Employment restrictions concerning young persons must be observed. For use only by technically qualified individuals.
<b>Water hazard class:</b>	Water hazard class 1 (Self-assessment): slightly hazardous for water.
<b>Other regulations, limitations and prohibitive regulations</b>	
<b>ELINCS (European List of Notified Chemical Substances)</b>	Substance is not listed.
<b>Substances of very high concern (SVHC) according to REACH, Article 57</b>	Substance is not listed.
<b>REACH - Pre-registered substances</b>	Substance is listed.
<b>15.2 Chemical safety assessment:</b>	A Chemical Safety Assessment has not been carried out.

**SECTION 16: Other information**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

<b>Department issuing SDS:</b>	Health, Safety and Environmental Department.
<b>Abbreviations and acronyms:</b>	ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport Association GHS: Globally Harmonized System of Classification and Labelling of Chemicals EINECS: European Inventory of Existing Commercial Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent

DE/E