

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**Trade name **Aluminum sulfide**Stock number: 12851
CAS Number: 1302-81-4
EC number: 215-109-0**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
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

Informing department:

1.4 Emergency telephone number:**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Water-react, 3. H261 In contact with water releases flammable gases.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
STOT SE 3 H335 May cause respiratory irritation.**Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.

R14-31: Reacts violently with water. Contact with acids liberates toxic gas.

Information concerning particular hazards

for human and environment:

Not applicable

Other hazards that do not result in classification

No information known.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

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



GHS02 GHS07

Signal word

Warning

Hazard statements

H261 In contact with water releases flammable gases.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Precautionary statements

P231+P232 Handle under inert gas. Protect from moisture.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
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:

EUH014 Reacts violently with water.
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: 1302-81-4 Aluminum sulfide
Identification number(s):
EC number: 215-109-0**SECTION 4: First aid measures****4.1 Description of first aid measures**

After inhalation

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.

After eye contact

Seek immediate medical advice.
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

In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.

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For safety reasons unsuitable extinguishing agents
5.2 Special hazards arising from the substance or mixture

Water.

Reacts violently with water
If this product is involved in a fire, the following can be released:
Sulphur oxides (SOx)
Hydrogen sulphide
Aluminum oxide

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
Do not allow product to reach sewage system or water bodies.
Do not allow to enter the ground/soil.

6.2 Environmental precautions:

6.3 Methods and material for containment and cleaning up:

Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
No special measures required.

Prevention of secondary hazards:

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:

No information known.

7.2 Conditions for safe storage, including any incompatibilities

Storage
Requirements to be met by storerooms and containers:

No special requirements.

Information about storage in one common storage facility:

Do not store together with acids.
Store away from water.

Further information about storage conditions:

Store under dry inert gas.
This product is moisture sensitive.
Protect from humidity and keep away from water.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
No further relevant information available.

7.3 Specific end use(s)

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.

Additional information:

No data

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:

Material of gloves

Penetration time of glove material

Eye protection:

Body protection:

Impervious gloves
Not determined
Safety glasses
Full face protection
Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form: Pieces
Colour: Pale grey
Smell: Like rotten eggs
Odour threshold: Not determined.

pH-value: Not applicable.

Change in condition

Melting point/Melting range: 1100 °C
Boiling point/Boiling range: Not determined
Sublimation temperature / start: Not determined
Inflammability (solid, gaseous) Not determined.
Ignition temperature: Not determined
Decomposition temperature: Not determined

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according to 1907/2006/EC, Article 31

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Trade name **Aluminum sulfide**

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| | |
|---|--|
| Self-inflammability: | Not determined. |
| Danger of explosion: | Not determined. |
| Critical values for explosion: | |
| Lower: | Not determined |
| Upper: | Not determined |
| Steam pressure: | Not applicable. |
| Density at 20 °C | 2,02 g/cm ³ |
| Relative density | Not determined. |
| Vapour density | Not applicable. |
| Evaporation rate | Not applicable. |
| Solubility in / Miscibility with | |
| Water: | Reacts violently |
| Partition coefficient (n-octanol/water): | Not determined. |
| Viscosity: | |
| dynamic: | Not applicable. |
| kinematic: | Not applicable. |
| 9.2 Other information | No further relevant information available. |

SECTION 10: Stability and reactivity

| | |
|--|---|
| 10.1 Reactivity | Reacts violently with water. Contact with acids liberates toxic gas. Stable under recommended storage conditions. |
| 10.2 Chemical stability | |
| Thermal decomposition / conditions to be avoided: | No decomposition if used and stored according to specifications. |
| 10.3 Possibility of hazardous reactions | Reacts violently with water Contact with acids liberates toxic gas. |
| 10.5 Incompatible materials: | Acids Water/moisture |
| 10.6 Hazardous decomposition products: | Sulphur oxides (SO _x) Hydrogen sulphide Aluminum oxide |

SECTION 11: Toxicological information

| | |
|---|---|
| 11.1 Information on toxicological effects | |
| Acute toxicity: | No effects known. |
| LD/LC50 values that are relevant for classification: | No data |
| Skin irritation or corrosion: | Causes skin irritation. |
| Eye irritation or corrosion: | Causes serious eye irritation. |
| Sensitization: | No sensitizing effect known. |
| Germ cell mutagenicity: | No effects known. |
| Carcinogenicity: | No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. |
| Reproductive toxicity: | No effects known. |
| Specific target organ system toxicity - repeated exposure: | No effects known. |
| Specific target organ system toxicity - single exposure: | May cause respiratory irritation. |
| Aspiration hazard: | No effects known. |
| Subacute to chronic toxicity: | No effects known. |
| Additional toxicological information: | To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. |



SECTION 12: Ecological information

| | |
|--|---|
| 12.1 Toxicity | |
| Aquatic toxicity: | No further relevant information available. |
| 12.2 Persistence and degradability | No further relevant information available. |
| 12.3 Bioaccumulative potential | No further relevant information available. |
| 12.4 Mobility in soil | No further relevant information available. |
| Additional ecological information: | |
| General notes: | 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. |
| 12.5 Results of PBT and vPvB assessment | |
| PBT: | Not applicable. |
| vPvB: | Not applicable. |
| 12.6 Other adverse effects | No further relevant information available. |

SECTION 13: Disposal considerations

| | |
|-------------------------------------|---|
| 13.1 Waste treatment methods | |
| Recommendation | 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. |
| Uncleaned packagings: | |
| Recommendation: | Disposal must be made according to official regulations. |

SECTION 14: Transport information

| | |
|---|--|
| UN-Number | |
| ADR, IMDG, IATA | UN3134 |
| 14.2 UN proper shipping name | |
| ADR | 3134 WATER-REACTIVE SOLID, TOXIC, N.O.S. (Aluminum sulfide) |
| IMDG, IATA | WATER-REACTIVE SOLID, TOXIC, N.O.S. (Aluminum sulfide) |
| 14.3 Transport hazard class(es) | |
| ADR | |
|  | |
|  | |
| Class | 4.3 (WT2) Substances which, in contact with water, emit flammable gases. |

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Label
IMDG, IATA

4.3+6.1

Class
Label4.3 Substances which, in contact with water, emit flammable gases.
4.3+6.1Packing group
ADR, IMDG, IATA

III

14.5 Environmental hazards:

Not applicable.

14.6 Special precautions for user

Warning: Substances which, in contact with water, emit flammable gases.

Kemler Number:

462

EMS Number:

F-G,S-N

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

Transport/Additional information:

ADR

Exempted quantities (EQ):

E1

Limited quantities (LQ)

1 kg

Transport category

0

Tunnel restriction code

E

UN "Model Regulation":

UN3134, WATER-REACTIVE SOLID, TOXIC, N.O.S. (Aluminum sulfide), 4.3 (6.1), III

SECTION 15: Regulatory information

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

Australian Inventory of Chemical

Substances is listed.

Standard for the Uniform Scheduling of

Medicines and Poisons Substance is not listed.

National regulations

Information about limitation of use:

Employment restrictions concerning young persons must be observed.
For use only by technically qualified individuals.

Water hazard class:

Water hazard class 1 (Self-assessment): slightly hazardous for water.

Other regulations, limitations and prohibitive

regulations

ELINCS (European List of Notified Chemical

Substances) Substance is not listed.

Substances of very high concern (SVHC)

Substance is not listed.

according to REACH, Article 57

Substance is listed.

REACH - Pre-registered substances

15.2 Chemical safety assessment: 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.

Department issuing SDS:

Health, Safety and Environmental Department.

Abbreviations and acronyms:

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

vPvB: very Persistent and very Bioaccumulative

ACGIH: American Conference of Governmental Industrial Hygienists (USA)

OSHA: Occupational Safety and Health Administration (USA)

NTP: National Toxicology Program (USA)

IARC: International Agency for Research on Cancer

EPA: Environmental Protection Agency (USA)

Water-react. 3: Substances and Mixtures which, in contact with water, emit flammable gases, Hazard Category 3

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

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