

Safety Data Sheet

according to Regulation (EU) 2020/878

Aluminum sulphate, solid

Date of issue: 25.01.2018

Revision date: 20.02.2023

Version/Replaced version: 7.0/6.0

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

1.1. Product identifier

Product form : Substance
Product name : Aluminum sulphate, solid
Chemical name : Aluminum sulphat tetradecahydrate
EC no : 233-135-0
CAS no : 16828-12-9
REACH no : 01-2119531538-36-xxxx

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Flocculating agent, Pulp chemicals and paper auxiliaries, Agent for water treatment

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Oker-Chemie GmbH
Im Schleeke 77
38642 Goslar
Tel.: +49 (0)5321 7435110

Safety Data Sheet: DLAC Dienstleistungsagentur Chemie GmbH, E-mail: sds@dlac-gmbh.de

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number
GERMANY	Giftinformationszentrum-Nord Zentrum Pharmakologie und Toxikologie der Universität Göttingen	Robert-Koch Strasse 40 D-37075 Göttingen	+49 551 19240

SECTION 2 : Hazards identification

2.1. Classification of the substance or mixture

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

Serious eye damage/eye irritation, Category 1 H318

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Causes serious eye damage

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS05

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H318 - Causes serious eye damage

Precautionary statements (CLP) :

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.
P310 - Immediately call a doctor, a POISON CENTER.

2.3. Other hazards

The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3: Composition/information on ingredients

3.1. Substances

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Substance name : Aluminum sulphat tetradecahydrate
EC no : 233-135-0
CAS no : 16828-12-9

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Aluminum sulphat tetradecahydrate	(CAS no) 16828-12-9 (EC no) 233-135-0 (REACH no) 01-2119531538-36-xxxx	≥ 99	Eye Dam. 1, H318

Full text of H-phrases: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Get medical advice/attention if you feel unwell. If possible show him this sheet. Failing this, show him the packaging or label. Never give anything by mouth to an unconscious person. Place the affected person in the recovery position.

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Rinse mouth. Drink plenty of water as a precaution. Do NOT induce vomiting. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after eye contact : Causes serious eye damage.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Adapt extinguishing agents to the environment. Carbon dioxide. Water spray. Dry extinguishing powder. For a significant fire : Foam.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : The product itself does not burn.

Hazardous decomposition products in case of fire : Sulfuric oxides (SO_x)

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Do not dispose of fire-fighting water in the environment.

Protection during firefighting : Use a self-contained breathing apparatus and also a protective suit.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Provide adequate ventilation. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothing.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate the danger area.

6.1.2. For emergency responders

Protective equipment : Use personal protective equipment as required. In case of inadequate ventilation wear respiratory protection. For further information refer to section 8: "Exposure controls/personal protection".

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6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : On land, sweep or shovel into suitable containers. Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal. Dispose of in accordance with relevant local regulations. Avoid dust formation.

6.4. Reference to other sections

Concerning personal protective equipment to use, see section 8. Concerning disposal elimination after cleaning, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid dust formation. Do not breathe dust. Avoid contact with skin and eyes. Wear personal protective equipment

Hygiene measures : Handle in accordance with good industrial hygiene and safety procedures. Contaminated work clothing should not be allowed out of the workplace. When using do not eat, drink or smoke. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Take off contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in original container. Keep container tightly closed. Store in a dry, cool and well-ventilated place. Keep out of direct sunlight. Keep container closed when not in use.

Prohibitions on mixed storage : Keep away from food, drink and animal feedingstuffs.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Aluminum sulphat tetradecahydrate (16828-12-9)		
United Kingdom	Local name	Aluminium salts, soluble
United Kingdom	WEL TWA (mg/m ³)	2 mg/m ³
Ireland	Local name	Aluminium salts, soluble
Ireland	OEL (8 hours ref) (mg/m ³)	2 mg/m ³

Aluminum sulphat tetradecahydrate (16828-12-9)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	3.8 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	13.4 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	1.9 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	3.3 mg/m ³
Long-term - systemic effects, dermal	1.9 mg/kg bodyweight/day

8.2. Exposure controls

Appropriate engineering controls : Provide local exhaust or general room ventilation to minimize exposure to dust.

Hand protection : Wear suitable gloves (EN 374). Nitrile rubber. ≥ 0.35 mm, Natural rubber, Butyl rubber, ≥ 0.5 mm. The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection : Chemical goggles or face shield (EN 166).

Skin and body protection : Wear suitable protective clothing (EN 13034).

Respiratory protection : No respiratory protection needed under normal use conditions. If the occupational exposure limit is exceeded or dust production: dust mask with filter type P2 (EN 143).

Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid, fine-grained up to lumpy powder, hygroscopic

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Colour	: Colourless
Odour	: Odourless
Melting point/freezing point	: 650 °C
Boiling point or initial boiling point and boiling range	: No data available
Flammability	: No data available
Lower and upper explosion limit	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: > 400 °C
pH	: ca. 3 (10 %)
Kinematic viscosity	: Not applicable
Solubility	: Water: 629 g/l
Partition coefficient n-octanol/water (log value)	: Not applicable
Vapour pressure	: No data available
Density and/or relative density	: 1.7 g/cm ³
Relative vapour density	: Not applicable
Particle characteristics	: No data available

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Explosive properties	: Not explosive
Oxidising properties	: No oxidising properties

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under use and storage conditions as recommended in section 7.

10.3. Possibility of hazardous reactions

None under normal use.

10.4. Conditions to avoid

Avoid high temperatures (> 50 °C).

10.5. Incompatible materials

Metals, Bases.

10.6. Hazardous decomposition products

No Hazardous decomposition products known. In case of fire: Sulphur oxides.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity	: Not classified Based on available data, the classification criteria are not met LD50 oral rat: > 2000 - < 5000 mg/kg (OECD 401) LD50 dermal rabbit: > 5 000 mg/kg LC50 inhalation rat: > 5.09 mg/L/4 h (OECD 403)
Skin corrosion/irritation	: Not classified Based on available data, the classification criteria are not met
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: Not classified Based on available data, the classification criteria are not met

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Germ cell mutagenicity	: Not classified Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified Based on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	: Not classified. Based on available data, the classification criteria are not met
Specific target organ toxicity (repeated exposure)	: Not classified Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified Based on available data, the classification criteria are not met

11.2. Information on other hazards

Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met
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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified

12.2. Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Not required for inorganic substances.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

This product does not meet the PBT- or vPvB criteria of REACH regulation, annex XIII.

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	: Disposal must be done according to official regulations.
Waste disposal recommendations	: Do not empty into drains.
European List of Waste (LoW) code	: The valid EWC waste code numbers are source related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number or ID number

UN-No. (ADR)	: Not applicable
UN-No. (IMDG)	: Not applicable
UN-No. (IATA)	: Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: Not applicable
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Proper Shipping Name (IMDG) : Not applicable

Proper Shipping Name (IATA) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable

Packing group (IMDG) : Not applicable

Packing group (IATA) : Not applicable

Packing group (ADN) : Not applicable

Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Aluminum sulphat tetradecahydrate is not on the REACH Candidate List

Aluminum sulphat tetradecahydrate is not on the REACH Annex XIV List

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

Chemical safety assessments for this substance were carried out.

SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Changes compared to earlier Versions : General revision, adaptation to regulation (EU) 2020/878

Aluminium sulphat tetradecahydrate (16828-12-9)

Listed on: EINECS/REACH (Europe)

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Listed on: NZIoC (New Zealand Inventory of Chemicals)
Listed on: PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on: TCSI (Taiwan's chemical substance inventory)

Abbreviations and acronyms:

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
EC50	Median effective concentration
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent Bioaccumulative Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
SDS	Safety data sheet
vPvB	Very Persistent and Very Bioaccumulative

Full text of H- and EUH-statements:

Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H318	Causes serious eye damage

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.