

Safety Data Sheet

according to Regulation (EU) No. 2015/830



Aluminum sulphate, liquid

Date of issue: 01.02.2017

Revision date: 14.05.2019

Version: 4.0

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

1.1. Product identifier

Product form : Mixture
Product name : Aluminum sulphate, liquid

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 75153415

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
Corrosive to metals, Category 1 H290

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS05

Hazardous ingredients : Aluminum sulphate
Signal word (CLP) : Danger
Hazard statements (CLP) : H318 - Causes serious eye damage
H290 - May be corrosive to metals
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.
P406 - Store in a corrosion resistant, stainless steel container with a resistant inner liner.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Aluminium sulphate	(CAS no) 10043-01-3 (EC no) 233-135-0 (REACH no) 01-2119531538-36	27 - 28	Eye Dam. 1, H318 Met. Corr. 1, H290

Full text of H-phrases: see section 16

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 : The product itself does not burn. 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

- 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. Mark the danger area. 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 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 : Wear suitable protective clothing. In case of inadequate ventilation wear respiratory protection.

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 : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Take up mechanically and collect in suitable container for disposal.

6.4. Reference to other sections

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

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Provide local exhaust or general room ventilation. Do not breathe vapour/aerosol. Avoid contact with skin and eyes.
- 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 tightly closed in a dry and cool place. Keep out of direct sunlight. Keep away from heat.
- 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

Aluminium sulphate (10043-01-3)		
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
Aluminium sulphate (10043-01-3)		
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	
PNEC (Water)		
PNEC aqua (freshwater)	0.3 mg/l	
PNEC aqua (marine water)	0.03 mg/l	
PNEC (STP)		
PNEC sewage treatment plant	20 mg/l	

8.2. Exposure controls

- Appropriate engineering controls : Provide local exhaust or general room ventilation.
- Hand protection : Wear suitable gloves (EN 374). Natural rubber, ≥ 0,5 mm. Viton, ≥ 0,4 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 : Do not breathe dust. In case of insufficient ventilation, wear suitable respiratory equipment. Respiratory protective device with particle filter EN 14387 B – P2.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Appearance : Colourless liquid
- Odour : Odourless
- Odour threshold : No data available
- pH : 2 - 2.7
- Melting point/freezing point : -10 °C
- Initial boiling point and boiling range : 100 – 120 °C
- Flash point : No data available
- Evaporation rate : No data available
- Flammability (solid, gas) : Not applicable

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Upper/lower flammability or explosive limits	: No data available
Vapour pressure	: No data available
Vapour density	: No data available
Relative density	: No data available
Density	: 1.33 g/cm ³ (20 °C)
Solubility(ies)	: Water: completely miscible
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Explosive properties	: Not explosive
Oxidising properties	: No oxidising properties

9.2. Other information

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

No conditions to avoid known.

10.5. Incompatible materials

Metals, Bases.

10.6. Hazardous decomposition products

Sulphur oxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified Based on available data, the classification criteria are not met LD50 oral rat: > 2000 mg/kg (OECD 401) LD50 dermal rabbit: > 5 000 mg/kg (OECD 402)
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
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

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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
Potential adverse human health effects and symptoms	: No additional information available

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. 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

UN-No. (ADR)	: 3264
UN-No. (IMDG)	: 3264
UN-No. (IATA)	: 3264

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (ALUMINIUM SULPHATE, SOLUTION)
Proper Shipping Name (IMDG)	: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (ALUMINIUM SULPHATE, SOLUTION)
Proper Shipping Name (IATA)	: Corrosive liquid, acidic, inorganic, n.o.s. (aluminium sulphate, solution)
Transport document description (ADR)	: UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (ALUMINIUM SULPHATE, SOLUTION), 8, III, (E)
Transport document description (IMDG)	: UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (ALUMINIUM SULPHATE, SOLUTION), 8, III
Transport document description (IATA)	: UN 3264 Corrosive liquid, acidic, inorganic, n.o.s. (aluminium sulphate, solution), 8, III

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14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 8

Danger labels (ADR) : 8



IMDG

Transport hazard class(es) (IMDG) : 8

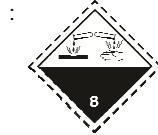
Danger labels (IMDG) : 8



IATA

Transport hazard class(es) (IATA) : 8

Hazard labels (IATA) : 8



14.4. Packing group

Packing group (ADR) : III

Packing group (IMDG) : III

Packing group (IATA) : III

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

Classification code (ADR) : C1

Special provisions (ADR) : 274

Limited quantities (ADR) : 5I

Excepted quantities (ADR) : E1

Packing instructions (ADR) : P001, IBC03, LP01, R001

Mixed packing provisions (ADR) : MP19

Portable tank and bulk container instructions (ADR) : T7

Portable tank and bulk container special provisions (ADR) : TP1, TP28

Tank code (ADR) : L4BN

Vehicle for tank carriage : AT

Transport category (ADR) : 3

Special provisions for carriage - Packages (ADR) : V12

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Hazard identification number (Kemler No.) : 80

Orange plates :



Tunnel restriction code (ADR) : E

EAC code : 2X

APP code : B

Transport by sea

Special provisions (IMDG) : 223, 274

Packing instructions (IMDG) : P001, LP01

IBC packing instructions (IMDG) : IBC03

Tank instructions (IMDG) : T7

Tank special provisions (IMDG) : TP1, TP28

EmS-No. (Fire) : F-A

EmS-No. (Spillage) : S-B

Stowage category (IMDG) : A

Stowage and handling (IMDG) : SW2

Properties and observations (IMDG) : Causes burns to skin, eyes and mucous membranes.

Air transport

PCA Excepted quantities (IATA) : E1

PCA Limited quantities (IATA) : Y841

PCA limited quantity max net quantity (IATA) : 1L

PCA packing instructions (IATA) : 852

PCA max net quantity (IATA) : 5L

CAO packing instructions (IATA) : 856

CAO max net quantity (IATA) : 60L

Special provisions (IATA) : A3

ERG code (IATA) : 8L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

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

Contains no substance on the REACH candidate list

Contains no substance on REACH Annex XIV list

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture 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

Aluminium sulphate (10043-01-3)

Listed on: EINECS/REACH (Europe)

Listed on: NZIoC (New Zealand Inventory of Chemicals)

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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
Met. Corr	Corrosive to metals, Category 1
H290	May be corrosive to metals
H318	Causes serious eye damage

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