

Aluminium sulfate (Alum) MSDS

Created: 09.10.2005 Last Updated: 21.05.2019

"*" alterations as compared to previous version; n.ap. = not applicable; n.av. = not available

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

- 1.1 **Product identifier**
Trade Name: Aluminum sulfate, solid
Article No.: n.av.
Preparation No.: n.av.
- 1.2 **Relevant identified uses of the substance or mixture and uses advised against**
 Identified uses: Potable water treatment, wastewater treatment
- 1.3 **Details of the supplier of the safety data sheet**
- 1.3.1 **Address of the Company / Supplier:**
 Company: African Hydro Agric Chemicals Ltd, PLOT 19, 20, 21, OPIC Industrial Estate, Agbara, Ogun State
 Telephone: +234-8058449332, Email: pradeep.kumar@africanindustries.com
- 1.3.2 **Responsible for the data sheet:**
 Quality Control Manager: Mr.Samuel Ibiloye; Email: i.sam@africanindustries.com

SECTION 2: Hazards identification

- 2.1 **Classification of the substance or mixture**
Classification and labelling according to Directive 1272/2008/EC:
 Eye Dam. 1; H318
- 2.2 **Label elements**
 Classification according to 1272/2008/EC: Yes.
 Applicable Exemptions: No.
 Signal word(s): Danger
 Component(s): 16828-12-9 Aluminiumsulphate
- H - Phrases:**
 H318: Causes serious eye damage.
- P - Phrases:**
 * 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 POISON CENTER/doctor.
- Additional Markings:
 None.
- 2.3 **Other hazards**
 According to the results of the evaluation this substance is not PBT or vPvB
- Hazard pictogram(s):



SECTION 3: Composition/information on ingredients

- 3.1 **Substances**
Dangerous Ingredients:
- | Material | CAS - No. | Index - No. | EC - No. | REACH - No. | m% - range |
|---|------------|-------------|----------|-----------------------|------------|
| Aluminiumsulphate tetradecahydrat (14 Hydrat) | 16828-12-9 | n.av. | n.av. | 01-2119531538-36-xxxx | > 99% |
| Eye Dam. 1; H318 | | | | | |
- 3.2 **Mixtures**
 n.ap.

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SECTION 4: First aid measures

- 4.1 **Description of first aid measures**
- 4.1.1 **Inhalation:**
Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion. If symptoms persist, call a physician.
- 4.1.2 **Skin Contact:**
Wash off with soap and water. In the case of skin irritation or allergic reactions see a physician.
- 4.1.3 **Eye Contact:**
Call a physician immediately. Rinse immediately with plenty of water, also under the eyelids.
- 4.1.4 **Ingestion:**
Do not induce vomiting. Clean mouth with water and afterwards drink plenty of water. Consult a physician.
- 4.2 **Most important symptoms and effects, both acute and delayed**
n.av.
- 4.3 **Indication of any immediate medical attention and special treatment needed**
Treat symptomatically.

SECTION 5: Firefighting measures

- 5.1 **Extinguishing media**
- 5.1.1 **Suitable Extinguishing Media:**
The product itself does not burn.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- 5.1.2 **Extinguishing Media to Avoid:**
high volume water jet.
- 5.2 **Special hazards arising from the substance or mixture**
In the event of fire the following can be released: Inorganic substances in powdered form, Sulphur oxides.
- 5.3 **Advice for firefighters**
- 5.3.1 **Special Protective Equipment:**
Wear positive pressure self-contained breathing apparatus. Wear full protective clothing.
- 5.3.2 **Additional Information:**
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

- 6.1 **Personal precautions, protective equipment and emergency procedures**
See chapter 8.2.2
Ensure adequate ventilation, especially in confined areas.
- 6.2 **Environmental precautions**
Local authorities should be advised if significant spillages cannot be contained.
Use mechanical handling equipment. Avoid dust formation.
- 6.3 **Methods and material for containment and cleaning up**
Sweep up or vacuum up spillage and collect in suitable container for disposal.
- 6.4 **Reference to other sections**
None.

SECTION 7: Handling and storage

- 7.1 **Precautions for safe handling**
- 7.1.1 **Precautions for Safe Handling:**
Keep container tightly closed in a dry and well-ventilated place. Re-open used containers with caution.
- 7.1.2 **Precautions in Case of Fire and Explosion:**
The product itself does not burn. No special precautions required.
- 7.2 **Conditions for safe storage, including any incompatibilities**
- 7.2.1 **Storage Instructions:**
Keep in a dry, cool and well-ventilated place. Jointless smooth floor: acid resisting floor.
- 7.2.2 **Store away from:**
Incompatible with strong bases and oxidizing agents.
- 7.2.3 **Further Information on Storage Conditions:**
Keep containers dry and tightly closed to avoid moisture absorption and contamination.
- 7.3 **Specific end use(s)**
n.av.

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SECTION 8: Exposure controls/personal protection

- 8.1 **Control parameters**
- | Material | Limit Value |
|---|--|
| Aluminiumsulfat tetradecahydrat (14 Hydrat) | TLV dust: 10 mg/m ³ (respirable fraction); 3 mg/m ³ (alveole passing fraction) |
- 8.2 **Exposure controls**
- 8.2.1 **Appropriate engineering controls**
Do not breathe dust. Avoid contact with skin and eyes. When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and at the end of workday.
- 8.2.2 **Individual protection measures**
- 8.2.2a **Respiratory Protection:** In case of insufficient ventilation, wear suitable respiratory equipment.
Short term only: Recommended Filter type: B-P2
- 8.2.2b **Hand Protection:** impervious butyl rubber gloves, Break through time > 480 min.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
- 8.2.2c **Eye Protection:** safety glasses with side-shields conforming to EN166
- 8.2.2d **Skin Protection:** protective suit
- 8.2.2e **Further Information:** Observe wearing time limits:
- 8.2.3 **Environmental exposure controls:**
n.av.

SECTION 9: Physical and chemical properties

- 9.1 **Information on basic physical and chemical properties**
- 9.1.1 **Form:** solid **Colour:** white **Odour:** odourless
Odour threshold: n.av.
- 9.1.2 pH-value, undiluted: n.ap.
pH-value, 1% aqueous solution: ~ 3; 10%
- 9.1.3 Boiling point / Boiling - range (°C): n.av., Melting point / Melting range (°C): 650
- 9.1.4 Flash point (°C): n.ap., closed cup
- 9.1.5 Flammability (EEC A10/A13): n.ap.
- 9.1.6 Ignition temperature (°C): n.ap.
- 9.1.7 Autoflammability (EEC A16): n.ap.
- 9.1.8 Oxidising properties: None.
- 9.1.9 Explosion hazard: No.
- 9.1.10 Explosion limits (Vol.%) lower: n.ap., upper: n.ap.
- 9.1.11 Vapour pressure: n.ap.
Vapour density (Air = 1): n.av.
- 9.1.12 Density (g/ml): 1,7
- 9.1.13 Solubility (in Water): 880 g/l
- 9.1.14 Partition coefficient, n-Octanol / Water: -2
- 9.1.15 Viscosity: n.av.
- 9.1.16 Solvent content (m %): n.ap.
- 9.1.17 Thermal decomposition (°C): > 400
- 9.1.18 Evaporation rate: n.av.
- 9.2 **Other information**
n.av.

SECTION 10: Stability and reactivity

- 10.1 **Reactivity**
Stable under recommended storage conditions.
- 10.2 **Chemical stability**
Stable under normal conditions.
- 10.3 **Possibility of hazardous reactions**
No dangerous reaction known under conditions of normal use.
- 10.4 **Conditions to avoid**
Protect from frost, heat and sunlight.
- 10.5 **Incompatible materials**
Incompatible with strong bases and oxidizing agents.
- 10.6 **Hazardous decomposition products**

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute Health Effects:

Inhalation:	n.av.
Ingestion:	LD ₅₀ /oral/rat =6207 mg/kg; Lit.
Skin Contact:	n.av.
Skin corrosion / irritation:	n.av.
Serious eye damage / irritation:	Causes serious eye damage.
Respiratory or skin sensitisation:	n.av.
Germ cell mutagenicity:	No.
Carcinogenicity:	No.
Reproductive toxicity:	No.
STOT-single exposure:	n.av.
STOT-repeated exposure:	n.av.
Aspiration hazard:	n.av.

11.1.1 – Practical Experience

11.1.11 n.av.

11.1.12 Practical Experience

Observations relevant for classification:

None.

Further Observations:

None.

SECTION 12: Ecological information

12.1 Toxicity

LC₅₀; 96h Gambusia affinis: 37 mg/l;

12.2 Persistence and degradability

Can be eliminated from water by flocculation.

12.3 Bioaccumulative potential

n.av.

12.4 Mobility in soil

n.av.

12.5 Results of PBT and vPvB assessment

According to the results of the evaluation this substance is not PBT or vPvB

12.6 Other adverse effects

12.6.1 COD-Value, mg/g:	n.av.
12.6.2 BOD5-Value, mg/g:	n.av.
12.6.3 AOX-Remarks:	Not relevant
12.6.4 Significant Components:	None.
12.6.5 Other adverse effects:	None.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

13.1.1 Recommendation: R 3/4, D 5/9

Waste - Code - No.: 16 03 03 (VeVA/OMoD)

The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

In addition comply with the regional authorities.

13.2 Contaminated Packaging

13.2.1 Recommendation: Wash with suitable cleaner. Otherwise as described under Residues. Uncontrolled disposal or recycling of this packaging is not permitted and can be dangerous.

13.2.2 Safe Handling: As described under Residues. Handle in accordance with good industrial hygiene and safety practice.

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SECTION 14: Transport information

	ADR	IMDG	IATA
	Not a dangerous substance as defined in the above regulations.		
	UN number		
14.2	UN proper shipping name		
14.3	Transport hazard class(es)		
14.4	Packing group		
14.5	Environmental hazards		
14.6	Special precautions for user		
	Transport category: Classification Code: Hazard - No.: LQ:		Packing Instructions (Passenger) Packing Instructions (Cargo)
14.7	Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code		
		None.	

SECTION 15: Regulatory information

	Safety, health and environmental regulations/legislation specific for the substance or mixture n.av.
15.2	Chemical safety assessment : None.

SECTION 16: Other information

Text of H phases mentioned in Section 3

H318: Causes serious eye damage.

The statements in this Material Safety Data Sheet were made to the best of our knowledge and are as accurate as possible. They are given for information only. They do not constitute a contractual guarantee of a product's properties. They must neither be altered nor transferred to other products.