



# Chemifloc Ltd.

## SAFETY DATA SHEET Aluminium Sulfate Solid

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II

### 1: Identification of the substance/preparation and of the company/undertaking

#### Identification of the substance or preparation

**Product Name:** Aluminium Sulfate, Alum

**Chemical Name:** Aluminium Sulfate

**Use of the preparation:**

Used as a chemical for the treatment of drinking water, has received appropriate approval by the European Committee for Standardisation.

#### Company/Undertaking identification

**Manufacturer/Supplier:** Chemifloc Ltd  
Smithstown, Shannon,  
Co. Clare,  
Rep. of Ireland.  
Tel: 00353 61 708699  
Fax: 00353 61 708698  
e-mail: [info@chemifloc.ie](mailto:info@chemifloc.ie)

**Emergency Telephone Number: 00353 61 708699**

### 2: Hazards Identification

Aluminium Sulfate Solid is classed as **Irritant**. This substance is not classified in the Annex I of Directive 67/548/EEC.

Risk of damage to eyes. Prolonged contact with skin may cause possible dermatitis.

NOTE Annex I of the Directive 67/548/EEC on classification, packaging and labelling of dangerous substances and its amendments and adaptations in the European Union contains a list of substances classified by the EU. Substances not in this annex I should be classified on the basis of their intrinsic properties according to the criteria in the Directive by the person responsible for the marketing of the substance.

### 3: Composition/Information on Ingredients

Substance: The material is formed by the action of sulphuric acids on aluminium trihydroxide.  
Total aluminium content 7.4% - 9.1%.

Ingredient Name	CAS Number	%	EC Number	Classification	Risk Phrases
Aluminium Sulfate	10043-01-3	48 - 58	233-135-0	Irritant: Xi	R 41
Water		42 - 52		Not classified	

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in section 8.

#### **4: First Aid Measures**

- Inhalation: Remove to fresh air and loosen clothing. Seek medical attention if symptoms are severe.
- Eyes: Wash out thoroughly with water or saline solution for a minimum of 15 minutes; seek medical attention.
- Skin: Remove contaminated clothing, wash skin thoroughly with plenty of water for minimum 15 minutes. In severe cases seek medical attention.
- Ingestion: If confined to the mouth area give large quantities of water as a mouthwash, ensure the water is not swallowed. If substance has been swallowed, give 250ml of water to dilute in stomach. Do not induce vomiting. In severe cases seek medical attention.

#### **5: Fire-Fighting Measures**

- Use full acid-resistant protective clothing.
- Material is not combustible, but may release toxic vapours (oxides of sulphur) when heated above 200°C. If fumes are present, use an approved full-face-respirator with acid cartridge.
- Use extinguishing media appropriate to the surrounding fire conditions.
- Use water to keep containers cool. Do not release runoff to sewers or waterways.

#### **6: Accidental, Release Measures**

- Wear appropriate protective clothing.
- Clear up spillages by suitable means avoiding dust formation.
- Collect as much as possible in a suitable clean container, preferably for re-use, otherwise for disposal.
- Do not allow runoff to enter sewers or waterways.
- Small spills of liquid, neutralise with soda ash or lime, absorb liquid with sand.
- Large spills of liquid, contain, then neutralise with caustic soda solution, and dispose in accordance with local regulations. Alumina sludge formed can be disposed of as a neutral waste.

#### **7: Handling and Storage**

- Transport: The product shall be delivered in suitable packages, paper or plastics bags, or by aluminium or mild steel tippers, or by rubber-lined or plastics-lined bulk truck (20 t to 35 t depending on transport regulations if applicable).
- Storage: Store in a cool dry place ( in humid conditions the product will absorb moisture from the atmosphere and this will eventually cause caking and loss of free flowing properties)
- Handling: Handle with care as an acid.  
Avoid contact with skin and eyes.  
Wear appropriate acid-resistant protective clothing.

#### **8: Exposure Controls/Personal Protection**

EH40/2005 listing under soluble aluminium salts – WEL 8 hour exposure 2 mg/m<sup>3</sup>.

Personal protective measures as appropriate to quantity used.

Respiratory: N/A.

Hand Protection: Rubber or PVC gloves.

Eye protection: Goggles or face shield affording complete eye protection.

Other measures: Plastic apron, sleeves, boots – if handling large quantities.

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## 9: Physical and Chemical Properties

Aluminium sulfate is an acidic hydrated salt. Very dilute solutions hydrolyse and form a precipitate of aluminium hydroxide.

### General information

Appearance Powder, Granules, Slabs

Colour White

Odour Odourless

Molecular Formula  $\text{Al}_2(\text{SO}_4)_3 \cdot n \text{H}_2\text{O}$ .

### Important health, safety and environmental information

pH 0.5 – 2.5

Vapour pressure @ 20 °C Not known

Density g/cm<sup>3</sup> 1.5 – 1.7

Solubility Miscible in water. Diluted solutions hydrolyse to precipitate  $\text{Al}(\text{OH})_3$ .

## 10: Stability and Reactivity

Solution is acidic and may react with metal to liberate flammable hydrogen gas. No decomposition if used according to specification. Dangerous reactions with bases i.e. chlorites, hypochlorites, sulphites, cyanides and sulphides. Avoid contact with most common metals (aluminium, copper, zinc and their alloys). Can liberate toxic and corrosive fumes of  $\text{SO}_2$  and  $\text{SO}_3$  under extreme conditions when boiled to dryness or heated above 600°C.

## 11: Toxicological Information

### Potential acute health effects

Ingestion Harmful if swallowed. Ingestion may result in damage to mucous membranes, nausea, vomiting, sore throat, abdominal pain and diarrhoea.

Skin contact May cause burns

Eye contact May cause corneal damage.

## 12: Ecological Information

Aluminium Sulfate is acidic, and so will cause damage to flora and fauna.

The material should not be allowed to spill into controlled waters in large amounts, as sufficient quantities will affect aquatic life forms. In such cases the Environment Protection Agency or Local Authority should be contacted.

Once diluted and neutralised no lasting effects will occur. Material is not bio- accumulative.

## 13: Disposal Considerations

Do not dispose directly into rivers or drains.

Small spills may be neutralised with sodium carbonate, lime, or calcium carbonate, and flushed to sewer.

Large amounts of Aluminium Sulfate should be contained, and then be neutralised with a weak alkali solution. The resulting suspension (mainly alumina) may be regarded as neutral waste and disposal should be in accordance with local or state or national legislation.

## 14: Transport Information

Aluminium sulfate is not listed under a UN number.

Aluminium sulfate is not classified as a dangerous product for road, rail, sea and air transportation.

## 15: Regulatory Information

Aluminium Sulfate Solid is classed as **Irritant** for supply, and packaging will carry the following information:

### EU Regulations:

Hazard Symbol or symbols: Xi Irritant

Risk Phrases: R41 : Risk of serious damage to eyes.

Safety Phrases: S 22 : Do not breathe dust ;  
S26 : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S28 : After contact with skin, wash immediately with plenty of water  
S 37/39 : Wear suitable gloves and eye/face protection.

Contains EINECS number: 233-135-0

## 16: Other Information

References: Aluminium Sulfate Solids are used as chemicals for the treatment of drinking water, as approved by the European Committee for Standardisation under EN 878:2004. The Transport and Regulatory Information given are in accordance with EN 878:2004.

History: This data sheet was prepared in accordance with EC Regulation No. 1907/2006 concerning REACH.

This version replaces Version 3, Jan 2009.

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### Notice to reader

To the best of our knowledge, the information provided in this Safety Data Sheet is accurate as at the date of its issue. The information it contains is being given for safety guidance purposes and relates only to the specific material and uses described in it. This information does not necessarily apply to that material when combined with other material(s) or when used otherwise than as described herein. Final determination of the suitability of any material is the sole responsibility of the user. All materials may represent unknown hazards and should be used with caution. Chemifloc Ltd disclaims any liability for loss or damage resulting from the use of any data, information or recommendations set out in this Safety Data Sheet.