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**Timuraya Tunggal, pt**  
Chemicals & Fertilizers

## 1. Product Identification

### 1.1 Product identifier

Product name : Aluminium sulfate (solid)

### 1.2 Relevant identified uses

Identified uses : Water purification , Sewage treatment , Deodorizer and decolorizing in petroleum refinery processes, Water proofing agent for concrete, Sizing paper and pH control, Clarifying agent for fats and oil.

## 2. Hazards Identification

### 2.1 Classification of the substance or mixture

This substance is not classified as dangerous according to European Union legislation.

### 2.2 GHS label elements

Labeling (Regulation (EC) No. 1272/2008)

*Precautionary statements*

P 262 : Do not get in eyes, on skin, or on clothing

Labeling (67/548/EEC or 1999/45/EC)

S - phrase(s) 24/25 Avoid contact with skin and eyes

EC - No. 233-135-0

## 3. Composition / Information On Ingredients

Chemical name : Aluminium Sulfate (solid)

Synonyms : Alum, Aluminium alum

CAS No. : 7784-31-8

Chemical family : Inorganic salt

Formula :  $\text{Al}_2(\text{SO}_4)_3 \cdot 14\text{H}_2\text{O}$

Molecular weight : 594 g/mol



#### 4. First Aid Measures

##### 4.1 Description of first aid measures

After inhalation : fresh air.

After skin contact : wash off with plenty of water. Remove contaminated clothing.

After eye contact : rinse out with plenty of water with the eyelid held wide open.

After swallowing : make victim drink water (two glasses at most). Consult doctor if feeling unwell.

##### 4.2 Indication of any immediate medical attention and special treatment needed

No information available.

#### 5. Fire-fighting Measures

##### 5.1 Extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

##### 5.2 Special hazards arising from the substance or mixture

Not combustible.

Fire may cause evolution of Sulphur oxides.

##### 5.3 Advice for fire fighters

*Special protective equipment for fire-fighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

*Further information*

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

#### 6. Accidental Release Measures

##### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel : Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert.

##### 6.2 Environmental precautions

Do not empty into drains.

##### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

#### 7. Handling And Storage

##### 7.1 Precautions for safe handling

Observe label precautions.



7.2 Conditions for safe storage, including any incompatibilities

Tightly closed. Dry.

Storage temperature : no restrictions

7.3 Specific and uses

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

8. Exposure Control/Personal Protection
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8.1 Control parameters

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1

Individual protection measures

Protective clothing needs to be selected specifically for the workplace , depending on concentrations and quantities of the hazardous substance handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

*Hygiene measures*

Change contaminated clothing. Wash hands after working with substance.

*Eye/face protection*

Safety glasses

*Hand protection*

Full contact :	Glove material	: Nitrile rubber
	Glove thickness	: 0.11 mm
	Break through time	: > 480 min

Splash contact :	Glove material	: Nitrile rubber
	Glove thickness	: 0.11 mm
	Break through time	: > 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374.

*Respiratory protection*

Required when dusts are generated.

Recommended filter type : Filter P 1 (acc.to DIN 3181) for solid particles of inert substances.

Environmental exposure controls

Do not empty to drains.



## 9. Physical And Chemical Properties

### 9.1 Information on basic physical and chemical properties

Appearance	: white to brownish solid
Odour	: odourless
pH	: >3 (1% solution at 27°C)
Melting point	: 770°C (decomposes)
Boiling point	: N/A
Vapour density	: N/A
Vapour pressure	: N/A
Evaporation rate	: N/A
Water solubility	: 87 g/100 cc at 27°C

### 9.2 Other data

Ignition temperature	: N/A
Bulk density	: 920 kg/m <sup>3</sup> (powder)

## 10. Stability And Reactivity

### 10.1 Chemical stability

Releases water of crystallization when heated

### 10.2 Possibility of hazardous reactions

None

### 10.3 Conditions to avoid

No information available

### 10.4 Incompatible materials

No information available

### 10.5 Hazardous decomposition products

In event of fire : see chapter 5

### 10.6 Reactivity

See section 10.2

## 11. Toxicological Information

### 11.1 Information on toxicological effects

*Acute oral toxicity*

LD50 rat

Dose : > 9000 mg/kg  
(RTECS)



Symptoms : irritations of mucous membranes in the mouth, pharynx, esophagus and gastrointestinal tract.

*Skin irritation*

Rabbit

Result : no irritation

Method : OECD test guideline 404

Slight irritation

*Eye irritation*

Slight irritation

*Specific target organ toxicity-single exposure*

The substance or mixture is not classified as specific target organ toxicant, single exposure.

*Specific target organ toxicity-repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

*Aspiration hazard*

Based on available data the classification criteria are not met.

11.2 Further information

Special properties/effects :

Astringent

Further data :

Handle in accordance with good industrial hygiene and safety practice.

12. Ecological Information
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12.1 Toxicity

*Toxicity to fish*

LC50

Species : Pimephales promelas (fathead minnow)

Dose : 36,1 mg/l

Exposure time : 96 h

12.2 Persistence and degradability

No information available

12.3 Bioaccumulative potential

No information available

12.4 Mobility in soil

No information available

12.5 Result of PBT and vPvB assessment

PBT / vPvB assessment not available as chemical safety assessment not required / not conducted.



12.6 Other adverse effects

*Additional ecological information*

Do not allow to run into surface waters, wastewater, or soil.

13. Disposal Considerations

*Waste treatment methods*

Cleaned up material may be a hazardous waste. DO NOT flush to surface water or sanitary sewer system. Waste must be disposed of in accordance with local environmental control regulations.

14. Transport Information

Not classified as dangerous in the meaning of transport regulations.

15. Regulatory Information

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

Major Accident Hazard Legislation	96/82/EC Directive 96/82/EC
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*National Legislation*

Storage class	10 – 13 Other liquids and solids
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15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

16. Other Information

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

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