

### SECTION 1: Identification of the substance/mixture and of the supplier/undertaking

#### 1.1. GHS product identifier

Product form	: Substance
Trade name	: ALUMINIUM SULPHATE GRAN (IRON FREE)
Chemical name	: Aluminiumsulfate
Type of product	: Pure substance, Hygroscopic substance. Preventive measures apply to the substance in dry state only
EC-No.	: 233-135-0
CAS-No.	: 10043-01-3
UN-No. (ADR)	: 3077
Product code	: ALUMINIUM SULPHATE GRAN (IRON FREE)
Formula	: $Al_2(SO_4)_3$
Product group	: Trade product

#### 1.2. Other means of identification

No additional information available

#### 1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture	: Water conditioning: flocculant Paper production: auxiliary substance Food industry: additive Leather: mordant
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#### 1.4. Supplier's details

##### Supplier

ImproChem(Pty) Ltd T/A AECI Water  
1 Wharhirst Road  
Umbogintwini – Kwa Zulu Natal  
South Africa  
T +27(31) 949 8200

#### 1.5. Emergency phone number

Emergency number : 0800 SPILLS or 0800 774557

### SECTION 2: Hazard identification

#### 2.1. GHS classification of the substance/mixture and any national or regional information

##### Classification according to the United Nations GHS

Skin corrosion/irritation, Category 1	H314
Serious eye damage/eye irritation, Category 1	H318
Hazardous to the aquatic environment – Acute Hazard	Not classified
Full text of H-statements: see section 16	
Adverse physicochemical, human health and environmental effects	: Causes severe skin burns and eye damage, Causes serious eye damage, Causes skin irritation, Toxic to aquatic life with long lasting effects, Harmful to aquatic life with long lasting effects.

#### 2.2. GHS label elements, including precautionary statements

##### Labelling according to the United Nations GHS

Hazard pictograms (GHS ZA) :



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According to Regulations for Hazardous Chemical Agents, 2021 and United Nations GHS revision 9

Signal word (GHS-ZA)	: Danger
Hazard statements (GHS ZA)	: H314 - Causes severe skin burns and eye damage
Precautionary statements (GHS ZA)	: P101 - If medical advice is needed, have product container or label at hand. P102 - Keep out of reach of children. P260 - Do not breathe dusts or mists. P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/....

### 2.3. Other hazards which do not result in classification or are not covered by the GHS

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Chemical name : Aluminiumsulfate  
Product identifiers: See section 1.1

Name	Product identifier	%	Classification according to the United Nations GHS
ALUMINIUM SULPHATE GRAN (IRON FREE) (Main constituent)	CAS-No.: 10043-01-3	100	Skin Corr. 1, H314 Eye Dam. 1, H318 Aquatic Acute Not classified

Full text of H-statements: see section 16

### 3.2. Mixture

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of necessary first aid measures

First-aid measures general	: Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash with plenty of water/.... Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Get medical advice/attention. Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	: Rinse immediately with plenty of water for 15 minutes. Get immediate medical advice/attention. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Call a physician immediately.

### 4.2. Most important symptoms/effect, acute and delayed

Symptoms/effects after inhalation	: Harmful by inhalation. Irritation of the respiratory tract.
Symptoms/effects after skin contact	: Causes skin irritation. Burns. Irritation.
Symptoms/effects after eye contact	: Causes eye irritation. Causes serious eye damage. Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.
Chronic symptoms	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Red skin. Dry skin. Skin rash/inflammation. Slowing ossification. Enlargement/affection of the liver.

### 4.3. Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically.

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### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam.  
Unsuitable extinguishing media : Do not use a heavy water stream.

#### 5.2. Specific hazards arising from the chemical

- Fire hazard : DIRECT FIRE HAZARD. Non combustible.  
Explosion hazard : DIRECT EXPLOSION HAZARD. No data available on direct explosion hazard. INDIRECT EXPLOSION HAZARD. No data available on indirect explosion hazard.  
Hazardous decomposition products in case of fire : Toxic fumes may be released.

#### 5.3. Special protective actions for fire-fighters

- Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.  
Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Dilute toxic gases with water spray. Take account of environmentally hazardous firefighting water. Use water moderately and if possible collect or contain it.  
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

- Protective equipment : Gloves. Safety glasses. Protective clothing. Dust cloud production: compressed air/oxygen apparatus. Reactivity hazard: compressed air/oxygen apparatus. Reactivity hazard: gas-tight suit. See "Material-Handling" to select protective clothing.  
Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

##### 6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid release to the environment.

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

- For containment : Collect spillage.  
Methods for cleaning up : Mechanically recover the product.  
Other information : Dispose of materials or solid residues at an authorized site.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Wear personal protective equipment.  
Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.  
Storage area : Store at ambient temperature. Keep out of direct sunlight. Store in a dry area. Keep container in a well-ventilated place. Unauthorized persons are not admitted. Meet the legal requirements.

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Heat and ignition sources	: KEEP SUBSTANCE AWAY FROM: heat sources.
Information on mixed storage	: KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) bases. water/moisture.
Special rules on packaging	: SPECIAL REQUIREMENTS: closing. watertight. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials	: SUITABLE MATERIAL: stainless steel. steel with rubber inner lining. polyethylene. polypropylene. MATERIAL TO AVOID: steel. aluminium. iron. carbon steel.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

### 8.3. Individual protection measures, such as personal protective equipment

Materials for protective clothing	: Excellent resistance: Butyl rubber. Neoprene. Natural rubber. Polyethylene. Polyvinylchloride (PVC). Tetrafluoroethylene. Viton. Poor resistance: Polyvinylalcohol (PVA)
Hand protection	: Protective gloves
Eye protection	: Safety glasses
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: In case of insufficient ventilation, wear suitable respiratory equipment

Device	Filter type	Condition	Standard

Personal protective equipment symbol(s)



### 8.4. Exposure limit values for the other components

No additional information available

## SECTION 9: Physical and chemical properties

### 9.1. Basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline solid. Powder. Grains. Lumps.
Molecular mass	: 342.14 g/mol
Colour	: Colourless to white. Colourless to white
Odour	: Odourless. Odourless
Odour threshold	: No data available
pH	: 2 (8 %)
pH solution	: 8 %
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: 770 °C
Freezing point	: Not applicable
Boiling point	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: 770 °C

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Flammability	: Non flammable.
Vapour pressure	: < 0.1 hPa (20 °C)
Vapour pressure at 50°C	: No data available
Relative vapour density at 20°C	: No data available
Relative density	: 2.7 (20 °C)
Relative density of saturated gas/air mixture	: No data available
Density	: 2710 kg/m <sup>3</sup> (20 °C)
Relative gas density	: No data available
Solubility	: Soluble in water. Exothermically soluble in water. Soluble in acids. Water: 36 g/100ml
Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: Not applicable
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Physical state	: Solid
Appearance	: Crystalline solid. Powder. Grains. Lumps.

### 9.2. Data relevant with regard to physical hazard classes (supplemental)

Minimum ignition energy	: Not applicable
SADT	: Not applicable
Other properties	: Hygroscopic. Substance has acid reaction.

## SECTION 10: Stability and Reactivity

### 10.1. Reactivity

Decomposes exothermically on exposure to water (moisture): release of corrosive products (sulphuric acid vapours). On burning: release of toxic and corrosive gases/vapours (sulphur oxides) and formation of metallic fumes. Reacts violently with (some) bases. Reacts violently with (strong) oxidizers: release of toxic and corrosive gases/vapours (sulphur oxides).

### 10.2. Chemical Stability

Hygroscopic.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Causes severe skin burns. pH: 2 (8 %)

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Serious eye damage/irritation	: Causes serious eye damage. pH: 2 (8 %)
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

### ALUMINIUM SULPHATE GRAN (IRON FREE) (10043-01-3)

Viscosity, kinematic	Not applicable
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## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general	: Toxic to aquatic life with long lasting effects. Harmful to aquatic life with long lasting effects.
Ecology - air	: Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	: Ground water pollutant. Maximum concentration in drinking water: 0.200 mg/l (aluminium) (Directive 98/83/EC); 250 mg/l (sulfate) (Directive 98/83/EC). Slightly harmful to fishes (LC50(96h) 100-1000 mg/l). Slightly harmful to invertebrates (Daphnia). Slightly harmful to algae (EC50: 100 - 1000 mg/l). pH shift.
Hazardous to the aquatic environment, short-term (acute)	: Not classified.
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

### ALUMINIUM SULPHATE GRAN (IRON FREE) (10043-01-3)

LC50 - Fish [1]	214.6 – 228.5 mg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 96 h; Pimephales promelas; Flow-through system; Fresh water; Experimental value)
EC50 - Crustacea [1]	242 mg/l (LC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
Threshold limit - Algae [1]	3011 mg/l (EC50; OECD 201: Alga, Growth Inhibition Test; 5 days; Algae; Static system; Fresh water; Experimental value)
Threshold limit - Algae [2]	602.17 mg/l (NOEC; OECD 201: Alga, Growth Inhibition Test; 5 days; Algae; Static system; Fresh water; Experimental value)

### 12.2. Persistence and degradability

### ALUMINIUM SULPHATE GRAN (IRON FREE) (10043-01-3)

Persistence and degradability	Biodegradability: not applicable. Hydrolysis in water.
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### 12.3. Bioaccumulative potential

### ALUMINIUM SULPHATE GRAN (IRON FREE) (10043-01-3)

BCF - Fish [1]	76 – 190 (BCF; OECD 305: Bioconcentration: Flow-Through Fish Test; 60 days; Salmo salar; Flow-through system; Fresh water; Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

### 12.4. Mobility in soil

### ALUMINIUM SULPHATE GRAN (IRON FREE) (10043-01-3)

Mobility in soil	No additional information available
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### 12.5. Other adverse effects

Ozone : Not classified  
Other adverse effects : No additional information available



## SECTION 13: Disposal Considerations

### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.  
Product/Packaging disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle/reuse. Precipitate/make insoluble. Remove to an authorized dump (Class I). Do not discharge unmonitored into the environment. Treat using the best available techniques before discharge into drains or the aquatic environment.  
Additional information : LWCA (the Netherlands): KGA category 05. Hazardous waste according to Directive 2008/98/EC.

## SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
<b>14.1. UN number</b>		
Not applicable	3077	3077
<b>14.2. UN Proper Shipping Name</b>		
Not applicable	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. ((Aluminium Sulphate))	Environmentally hazardous substance, solid, n.o.s. ((Aluminium Sulphate))
<b>14.3. Transport hazard class(es)</b>		
Not applicable	9	9
Not applicable		
<b>14.4. Packing group, if applicable</b>		
Not applicable	III	III
<b>14.5. Environmental hazards</b>		
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No
No supplementary information available		

### 14.6. Special precautions for user

**SANS**  
Transport regulations (UN) : Not subject

**IMDG**  
Transport regulations (IMDG) : Not subject  
Special provisions (IMDG) : 274, 335, 966, 967, 969  
Limited quantities (IMDG) : 5 kg

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Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P002, LP02
Special packing provisions (IMDG)	: PP12
IBC packing instructions (IMDG)	: IBC08
IBC special provisions (IMDG)	: B3
Tank instructions (IMDG)	: T1, BK1, BK2, BK3
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-F - SPILLAGE SCHEDULE Foxtrot - WATER-SOLUBLE MARINE POLLUTANTS
Stowage category (IMDG)	: A
Stowage and handling (IMDG)	: SW23

### IATA

Transport regulations (IATA)	: Not subject
PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y956
PCA limited quantity max net quantity (IATA)	: 30kgG
PCA packing instructions (IATA)	: 956
PCA max net quantity (IATA)	: 400kg
CAO packing instructions (IATA)	: 956
CAO max net quantity (IATA)	: 400kg
Special provisions (IATA)	: A97, A158, A179, A197
ERG code (IATA)	: 9L

### 14.7. Transport in bulk according to IMO instructions

Not applicable

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations specific for the product in question

No additional information available

## SECTION 16: Other information

Issue date	: 23/01/2024
Revision date	: 23/01/2027

Abbreviations and acronyms	: ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road ATE - Acute Toxicity Estimate BCF - Bioconcentration factor BLV - Biological limit value BOD - Biochemical oxygen demand (BOD) COD - Chemical oxygen demand (COD) DMEL - Derived Minimal Effect level DNEL - Derived-No Effect Level EC-No. - European Community number EC50 - Median effective concentration EN - European Standard IARC - International Agency for Research on Cancer IATA - International Air Transport Association IMDG - International Maritime Dangerous Goods LC50 - Median lethal concentration LD50 - Median lethal dose LOAEL - Lowest Observed Adverse Effect Level NOAEC - No-Observed Adverse Effect Concentration NOAEL - No-Observed Adverse Effect Level NOEC - No-Observed Effect Concentration
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OECD - Organisation for Economic Co-operation and Development  
OEL - Occupational Exposure Limit  
PBT - Persistent Bioaccumulative Toxic  
PNEC - Predicted No-Effect Concentration  
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail  
SDS - Safety Data Sheet  
STP - Sewage treatment plant  
ThOD - Theoretical oxygen demand (ThOD)  
TLM - Median Tolerance Limit  
VOC - Volatile Organic Compounds  
CAS-No. - Chemical Abstract Service number  
N.O.S. - Not Otherwise Specified  
vPvB - Very Persistent and Very Bioaccumulative  
ED - Endocrine disrupting properties

### Full text of H-statements:

H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage

Safety Data Sheet (SDS), South Africa (HCA)

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