

# SAFETY DATA SHEET

(in accordance with Regulation (EU) 2020/878)

## POTASSIUM ALUM



Version 1 Date of compilation: 17/05/2021

Version 2 (replaces version 1) Revision date: 28/05/2024

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### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING.

#### 1.1 Product identifier.

|                   |                                                                         |
|-------------------|-------------------------------------------------------------------------|
| Product Name:     | <b>POTASSIUM ALUM</b>                                                   |
| Product Code:     | ALQ0040                                                                 |
| IUPAC Name:       | Aluminium potassium bis(sulphate)                                       |
| Synonyms:         | potash alum; Hydrated Alum, Burnt potassium alum, Neapolitan Alum; E522 |
| CAS No:           | 10043-67-1                                                              |
| EC No:            | 233-141-3                                                               |
| Formula:          | $\text{Al}_2\text{H}_2\text{O}_4\text{S}_2\text{K}$                     |
| Molecular weight: | 258.20 g/mol                                                            |
| Registration No:  | 01-2119960162-44-XXXX                                                   |
| Product type:     | Mono-constituent substance, inorganic. Powder-solid.                    |



#### 1.2 Relevant identified uses of the substance or mixture and uses advised against.

Paper sizing process, textile pigments mordant, coagulating agent, tanning additive, flame retardant fabrics, cosmetics, pharmaceuticals, laboratory products, toner and inks. Industrial, professional, consumer use. See exposure scenarios.

#### Uses advised against:

All uses not specified in this section or in section 7.3. Due to lack of experience or data, the supplier cannot approve other unspecified use.

#### 1.3 Details of the supplier of the safety data sheet.

|            |                                                               |
|------------|---------------------------------------------------------------|
| Company:   | <b>ALQUERA CIENCIA SL</b>                                     |
| Address:   | C/ Vilar de Donas 9                                           |
| City:      | 28050 - Madrid                                                |
| Province:  | Madrid (Spain)                                                |
| Telephone: | 0034 620 88 75 97                                             |
| E-mail:    | info@alquera.com                                              |
| Web:       | <a href="https://www.alquera.com">https://www.alquera.com</a> |

**1.4 Emergency telephone number:** 0034 620 88 75 97 (SDS) (Only available during office hours; Monday-Friday; 09:00-18:00)

### SECTION 2: HAZARDS IDENTIFICATION.

#### 2.1 Classification of the substance or mixture.

The product is not classified as hazardous within the meaning of Regulation (EC) No 1272/2008.

#### 2.2 Label elements.

The product is not classified as hazardous within the meaning of Regulation (EC) No 1272/2008.

#### 2.3 Other hazards.

This substance does not contain components considered to be persistent, bioaccumulative, toxic, (PBT) or very bioaccumulative and very persistent (vPvB)  $\geq 0.1\%$ .

This product does not contain substance(s) included in the list established pursuant to Article 59(1) due to their endocrine disrupting properties, nor have they been identified as having endocrine disrupting properties according to the criteria set out in Commission Delegated Regulation (EU) 2017/2100 and Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0.1%.

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### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS.

#### 3.1 Substances.

##### Mono-constituent, inorgánica.

IUPAC Name: Aluminium potassium bis(sulphate)  
CAS No: 10043-67-1  
EC No: 233-141-3  
Formula:  $\text{Al}_2\text{H}_2\text{O}_4\text{S}_2\text{K}$   
Molecular weight: 258.20 g/mol

| Identifiers                            | Name                              | Concentration | (*)Classification - Regulation (EC)<br>No 1272/2008 |                                                                     |
|----------------------------------------|-----------------------------------|---------------|-----------------------------------------------------|---------------------------------------------------------------------|
|                                        |                                   |               | Classification                                      | Specifics<br>concentration<br>limits and Acute<br>toxicity estimate |
| CAS No: 10043-67-1<br>EC No: 233-141-3 | Aluminium potassium bis(sulphate) | 99.5 - 100 %  | -                                                   | -                                                                   |

#### 3.2 Mixtures.

Not applicable.

### SECTION 4: FIRST AID MEASURES.

#### 4.1 Description of first aid measures.

Due to the composition and type of the substances present in the product, no particular warnings are necessary.

##### Inhalation.

If breathing stops, seek emergency medical attention. Take the victim into open air; keep them warm and calm. If breathing is irregular or stops, perform artificial respiration.

##### Eye contact.

Remove contact lenses, if present and if it is easy to do. Wash eyes with plenty of clean and cool water for at least 15-20 minutes while pulling eyelids up and seek medical assistance. Do not let the person to rub the affected eye.

##### Skin contact.

Remove contaminated clothing. Wash skin vigorously with water and soap or a suitable skin cleaner. NEVER use solvents or thinners.

##### Ingestion.

If accidentally ingested, seek immediate medical attention. Keep calm. NEVER induce vomiting.

#### 4.2 Most important symptoms and effects, both acute and delayed.

No known acute or delayed effects from exposure to the product.

##### Products in powder form

Inhalation: Exposure to dust may cause irritation. Processes such as cutting, grinding, crushing or impacting can result in the generation of excessive amounts of airborne dust in the workplace. Nuisance dust can affect the lungs, but reactions are usually reversible. Prolonged exposure to dust can cause wheezing, chest tightness, productive coughing, nasal irritation and symptoms of chronic respiratory disease.

Skin: Exposure to dust may cause mechanical irritation.

Eyes: Exposure to dust may cause mechanical irritation. Excessive concentrations of nuisance dust in the workplace may reduce visibility and cause unpleasant deposits in the eyes.

Ingestion: Excessive concentrations of nuisance dust in the workplace may cause mechanical irritation of mucous membranes.

##### Symptoms of acute poisoning (GESTIS):

Eyes: irritant to corrosive effect.

Skin: astringent effect on contact with wet skin or concentrated solutions, the anhydrous salt may result in corrosion caused by dehydration.

Inhalation: moderate to severe irritation of mucous membranes, cough, dyspnea, risk of glottic oedema/bronchospasm, in severe cases pulmonary oedema cannot be ruled out.

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Ingestion: metallic taste, concentration-dependent moderate to severe irritation or corrosion of mucous membranes, pain in the mouth, pharynx and abdomen, risk of glottic oedema and risk of subsequent development of strictures and perforation in the gastrointestinal tract, with the potential of late-onset perforation; nausea, vomiting and diarrhea possible.

Absorption: after oral intake of high doses, reduction of intestinal motility and constipation may occur; in rare cases, hemorrhagic gastritis and circulatory collapse.

#### 4.3 Indication of any immediate medical attention and special treatment needed.

In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious. Treat symptomatically

### SECTION 5: FIREFIGHTING MEASURES.

Non-flammable, non-combustible product.

#### 5.1 Extinguishing media.

##### Suitable extinguishing media:

Extinguisher powder or CO<sub>2</sub>. In case of more serious fires, also alcohol-resistant foam and water spray.

##### Unsuitable extinguishing media:

Do not use a direct stream of water to extinguish. In the presence of electrical voltage, you cannot use water or foam as extinguishing media.

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

##### Special risks.

Exposure to combustion or decomposition products can be harmful to your health.

In case of fire may form: metal oxides. Sulfur oxides, potassium oxides, sulfur trioxide vapours.

Exposed to high temperatures may release toxic and irritating gases.

#### 5.3 Advice for firefighters.

Use water to cool tanks, cisterns, or containers close to the heat source or fire. Take wind direction into account.

##### Fire protection equipment.

According to the size of the fire, it may be necessary to use protective suits against the heat, individual breathing equipment, gloves, protective goggles or facemasks, and boots. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...) in accordance with Directive 89/654/EC.

### SECTION 6: ACCIDENTAL RELEASE MEASURES.

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

For exposure control and individual protection measures, see section 8.

Avoid contact with eyes and skin.

Do not breathe dust.

#### 6.2 Environmental precautions.

Product not classified as hazardous for the environment, avoid spillage as much as possible.

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

Cover sewers. Collect and vacuum spills. Observe possible material restrictions (see indications in sections 7 or 10). Collect mechanically, dry and dispose of residues. Rinse. Avoid dust formation.

Deposit waste in closed and suitable containers for disposal, in compliance with local and national regulations (see section 13).

#### 6.4 Reference to other sections.

For exposure control and individual protection measures, see section 8.

For later elimination of waste, follow the recommendations under section 13.

### SECTION 7: HANDLING AND STORAGE.

#### 7.1 Precautions for safe handling.

The product does not require special handling measures, the following general measures are recommended:

For personal protection, see section 8.

In the application area, smoking, eating, and drinking must be prohibited.

Follow legislation on occupational health and safety.

Keep the product in containers made of a material identical to the original.

Avoid contact with eyes and skin.

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

The product does not require special storage measures. As general storage measures, sources of heat, radiation, electricity and contact with food should be avoided.

Keep away from oxidizing agents and from highly acidic or alkaline materials.

Store the containers between 5 and 25 ° C, in a dry and well-ventilated place.

Store according to local legislation. Observe indications on the label. Once the containers are open, they must be carefully closed and placed vertically to prevent spills.

The product is not affected by Directive 2012/18/EU (SEVESO III).

Store in plastic, resin or stainless-steel containers.

Do not store in ferrous, aluminium or paper containers.

In solution and during a prolonged period in open tank may evaporate and crystallize. Store in dry and ventilated areas.

In case of fire and high temperatures may release toxic gases.

Protect from heat to avoid caking.

### 7.3 Specific end use(s).

See section 1.2 and annexes for exposure scenarios.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION.

The information contained in this section contains general advice and indications. The information provided is based on the usual anticipated uses for the product. Additional measures may be necessary for bulk handling or other uses that could significantly increase worker exposure or environmental release.

### 8.1 Control parameters.

If this product contains ingredients with exposure limits, personal, workplace or biological monitoring may be necessary to determine the effectiveness of ventilation or other control measures and/or the need for respiratory protective equipment. Monitoring standards such as the following should be used for reference: European Standard EN 689 (Atmospheres in workplaces. Guidelines for the assessment of inhalation exposure of chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Atmospheres in workplaces. Guidelines for the application and use of procedures for assessing exposure to chemical and biological agents) European Standard EN 482 (Atmospheres in workplaces. General requirements concerning the performance of procedures for the measurement of chemical agents) National guidance documents concerning methods for the determination of hazardous substances should also be used as a reference.

#### Professional Exposure Environmental Limit Values:

aluminum potassium bis(sulfate) (SPAIN, 8-hour), 2 mg/m<sup>3</sup>.

Nuisance dust: Inhalable dust 10 mg/m<sup>3</sup> // Respirable dust 4 mg/m<sup>3</sup>

The environmental limit value for general dust (INSST, Spain) is:

- VLA-ED particles not otherwise specified. Inhalable fraction 10 mg/m<sup>3</sup>

- VLA-ED Particulates not otherwise specified. Respirable fraction 3 mg/m<sup>3</sup>

This is a dusty product. The workplace exposure limit for dust (USA-OSHA) is:

- 8-hour TWA inhalable dust: 10 mg/m<sup>3</sup>

- 8-hour TWA respirable dust: 5 mg/m<sup>3</sup>

It is recommended that the occupational exposure limit values established for inert dusts not otherwise classified be considered in the risk assessment process. If these limits are exceeded, it is recommended to use a P-type filter whose class (1, 2 or 3) should be chosen depending on the outcome of the risk assessment.

The product does NOT contain substances with Biological Limit Values.

### 8.2 Exposure controls.

#### Measures of a technical nature:

Provide adequate ventilation, which can be achieved by using good local exhaust-ventilation and a good general exhaust system.

Individual protection measures, such as personal protective equipment As a preventative measure it is recommended to use basic Personal Protective Equipment, in accordance with Regulation (EU) 2016/425. For more information on Personal Protective Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsections 7.1 and 7.2. All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

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### Respiratory protection

The use of protective equipment will be necessary in case of mist/dust formation or in case of exceeding occupational exposure limits if they exist (see section 8.1). Use respiratory protection in case of spray application. Wear respiratory protection in case of prolonged exposure. In case of insufficient ventilation, wear respiratory protection equipment.

### Specific protection for the hands

Replace the gloves at any sign of deterioration. Breakthrough time >480 min (permanent contact protection). When only brief contact is expected, it is recommended to use gloves with level 2 or higher protection, with breakthrough time >30 min. The breakthrough time of the selected gloves should be in accordance with the intended period of use. Various factors (e.g. temperature) mean that in practice the breakthrough time of chemical-resistant protective gloves is significantly shorter than that specified in EN374. An increase in temperature due to hot substances, body heat, etc. and a weakening of the effective thickness due to expansion can lead to a significant shortening of the breakthrough time.

For the selection of a specific type of gloves for specific applications, with a certain duration, relevant factors in the workplace should be taken into account (but not limited to), such as: other chemicals to be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential allergies to the glove material itself, etc... Due to the wide variety of circumstances and possibilities, the instruction manual of the glove manufacturers should be taken into account. Gloves should be replaced immediately if signs of degradation are observed.

### Clothing:

Clothing, including boots, gloves, lab coat, apron or coveralls, should be worn whenever there is a possibility of skin contact. Wash hands before work breaks and after work is finished. Change contaminated clothing.

### Additional emergency measures

Emergency shower: ANSI Z358-1, ISO 3864-1:2011, ISO 3864-4:2011

Eyewash stations: DIN 12 899, ISO 3864-1:2011, ISO 3864-4:2011

### General measures:

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Good personal hygiene practices are necessary at all times when working with chemicals. These practices include, but are not limited to, cleaning equipment when it is removed at the end of each shift or when taking breaks and especially if contamination occurs.

### Controlling environmental exposure

Do not allow product to enter the sewage system.

**Advice on personal protection is valid for high levels of exposure.**

**Choose personal protection adapted to the risks of exposure**

|                              |                                                                                                                                                                                                                                                                                                           |                           |       |                                                                                       |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------|---------------------------------------------------------------------------------------|
| <b>Concentration:</b>        | <b>100 %</b>                                                                                                                                                                                                                                                                                              |                           |       |                                                                                       |
| <b>Uses:</b>                 | <b>Paper sizing process, textile pigments mordant, coagulating agent, tanning additive, flame retardant fabrics, cosmetics, pharmaceuticals, laboratory products, toner and inks. Industrial, professional, consumer use. See exposure scenarios.</b>                                                     |                           |       |                                                                                       |
| <b>Breathing protection:</b> |                                                                                                                                                                                                                                                                                                           |                           |       |                                                                                       |
| PPE:                         | Filter mask for protection against gases and particles.                                                                                                                                                                                                                                                   |                           |       |  |
| Characteristics:             | «CE» marking, category III. The mask must have a wide field of vision and an anatomically designed form in order to be sealed and watertight.                                                                                                                                                             |                           |       |                                                                                       |
| CEN standards:               | EN 136, EN 140, EN 405, EN143                                                                                                                                                                                                                                                                             |                           |       |                                                                                       |
| Maintenance:                 | Should not be stored in places exposed to high temperatures and damp environments before use. Special attention should be paid to the state of the inhalation and exhalation valves in the face adaptor.                                                                                                  |                           |       |                                                                                       |
| Observations:                | Read carefully the manufacturer's instructions regarding the equipment's use and maintenance. Attach the necessary filters to the equipment according to the specific nature of the risk (Particles and aerosols: P1-P2-P3, Gases and vapours: A-B-E-K-AX), changing them as advised by the manufacturer. |                           |       |                                                                                       |
| Filter Type needed:          | P1                                                                                                                                                                                                                                                                                                        |                           |       |                                                                                       |
| <b>Hand protection:</b>      |                                                                                                                                                                                                                                                                                                           |                           |       |                                                                                       |
| PPE:                         | Protective gloves.                                                                                                                                                                                                                                                                                        |                           |       |  |
| Characteristics:             | «CE» marking, category II.                                                                                                                                                                                                                                                                                |                           |       |                                                                                       |
| CEN standards:               | EN 374-1, En 374-2, EN 374-3, EN 420                                                                                                                                                                                                                                                                      |                           |       |                                                                                       |
| Maintenance:                 | Keep in a dry place, away from any sources of heat, and avoid exposure to sunlight as much as possible. Do not make any changes to the gloves that may alter their resistance, or apply paints, solvents or adhesives.                                                                                    |                           |       |                                                                                       |
| Observations:                | Gloves should be of the appropriate size and fit the user's hand well, not being too loose or too tight. Always use with clean, dry hands.                                                                                                                                                                |                           |       |                                                                                       |
| Material:                    | PVC (polyvinyl chloride)                                                                                                                                                                                                                                                                                  | Breakthrough time (min.): | > 480 |                                                                                       |

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| Eye protection:  |                                                                                                                                                                                                                                                              |  |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| PPE:             | Protective goggles with built-in frame.                                                                                                                                                                                                                      |  |
| Characteristics: | «CE» marking, category II. Eye protector with built-in frame for protection against dust, smoke, fog and vapour.                                                                                                                                             |  |
| CEN standards:   | EN 165, EN 166, EN 167, EN 168                                                                                                                                                                                                                               |  |
| Maintenance:     | Visibility through lenses should be ideal. Therefore, these parts should be cleaned daily. Protectors should be disinfected periodically following the manufacturer's instructions.                                                                          |  |
| Observations:    | Some signs of wear and tear include: yellow colouring of the lenses, superficial scratching of the lenses, scraping etc.                                                                                                                                     |  |
| Skin protection: |                                                                                                                                                                                                                                                              |  |
| PPE:             | Protective clothing.                                                                                                                                                                                                                                         |  |
| Characteristics: | «CE» marking, category II. Protective clothing should not be too tight or loose in order not to obstruct the user's movements.                                                                                                                               |  |
| CEN standards:   | EN 340                                                                                                                                                                                                                                                       |  |
| Maintenance:     | In order to guarantee uniform protection, follow the washing and maintenance instructions provided by the manufacturer.                                                                                                                                      |  |
| Observations:    | The protective clothing should offer a level of comfort in line with the level of protection provided in terms of the hazard against which it protects, bearing in mind environmental conditions, the user's level of activity and the expected time of use. |  |
| PPE:             | Work footwear.                                                                                                                                                                                                                                               |  |
| Characteristics: | «CE» marking, category II.                                                                                                                                                                                                                                   |  |
| CEN standards:   | EN ISO 13287, EN 20347                                                                                                                                                                                                                                       |  |
| Maintenance:     | This product adapts to the first user's foot shape. That is why, as well as for hygienic reasons, it should not be used by other people.                                                                                                                     |  |
| Observations:    | Work footwear for professional use includes protection elements aimed at protecting users against any injury resulting from an accident                                                                                                                      |  |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES.

### 9.1 Information on basic physical and chemical properties.

#### Appearance:

Physical state (20°C): Solid – Dust (crystalline).

Colour: white.

Odour: odourless.

Odour threshold: Not relevant due to the nature of the product, not providing information property of its hazards.

#### Volatility:

Boiling point or initial boiling point and boiling range:  $\geq 200$  °C. Study technically not feasible because Aluminium potassium bis(sulphate) decomposes before reaching the boiling point (Annex 7 REACH regulation EU 1907/2006).

Vapour pressure: N.A. Study scientifically unjustified because at standard conditions the substance represents an inorganic salt with a very low vapour pressure. Up to 200°C the substance loses only water and therefore a very low vapour pressure is to be expected even at this temperature.

Relative vapour density (air=1): N.A. Solid.

Evaporation rate : N.A. Solid.

#### Flammability:

Flammability: No inflammable ( $> 60$ °C).

Flash point: not applicable, inorganic substance (Annex VII Column 2, REACH).

Lower explosion limit: N.A.

Upper explosion limit: N.A.

Auto-ignition temperature: the substance is non combustible.

#### Product description:

Melting(Freezing point: 92.5-93.0 °C.

Decomposition: at ca. 65°C the substance (CAS 7784-24-9) dehydrates; at 200°C the substance becomes anhydrous (10043-76-1); at 780°C the substance decomposes to  $K_2SO_4$ ,  $\gamma-Al_2O_3$  and  $3 K_2SO_4 \times Al_2(SO_4)_3$  (ECHA).

Decomposition temperature:  $> 770$  °C.

pH: 3.0-4.0 (25 °C) (1%), potentiometry.

Kinematic viscosity: Dynamic viscosity (20°C): Not applicable, solid substance.

Kinematic viscosity (40°C): Not applicable, solid substance.

Solubility: totally soluble in water. Insoluble in ethanol.

Hydrosolubility: easily soluble in water. 138-150 g/l (20°C).

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Liposolubility: N.A.

Partition coefficient n-octanol/water (log value): not applicable, inorganic substance (Annex VII Column 2, REACH).

Absolute density: N.A.

Relative density (water=1, 20 °C): 1.64-1.75.

### Particle characteristics:

Granulometry: 99% > 500 microns.

N.A.= Not Available/Non- Applicable due to the nature of the product, not providing information property of its hazards

### 9.2 Other information

Explosiveness: In accordance with column 2 of Annex VII of the REACH regulation, the study does not need to be conducted since there are no chemical groups associated with explosive properties present in the molecule. Thus, the chemical is likely to be "Non explosive".

Oxidising properties: In accordance with column 2 of Annex VII of the REACH regulation, the substance is incapable of reacting exothermically with combustible materials based on the chemical structure. It is an organic substance containing oxygen but no halogen atoms and these elements are not chemically bonded to nitrogen or oxygen. Thus, the chemical is likely to be "Non-oxidising".

Drop point: N.A.

Scintillation: N.A.

Solids %:  $\geq 99.5\%$ .

N.A.= Not Available/Non- Applicable due to the nature of the product, not providing information property of its hazards

## SECTION 10: STABILITY AND REACTIVITY.

### 10.1 Reactivity.

The product does not present hazards by their reactivity under the recommended handling and storage conditions (see section 7).

### 10.2 Chemical stability.

Stable under the recommended handling and storage conditions (see section 7).

In solution and during a prolonged period in open tank may evaporate and crystallize.

### 10.3 Possibility of hazardous reactions.

The product does not present possibility of hazardous reactions under the recommended handling and storage conditions (see section 7).

### 10.4 Conditions to avoid.

Avoid any improper handling.

Avoid contact with bases, direct exposure to high temperatures to avoid compaction, heat, flames, static discharges.

### 10.5 Incompatible materials.

Keep away from highly alkaline/basic materials, strong oxidizing agents.

Store in plastic, resin or stainless-steel containers.

Do not store in ferrous, aluminum or paper containers, cardboard, carbon steel or other easily oxidizable containers.

### 10.6 Hazardous decomposition products.

Above 770°C it can decompose forming sulfur trioxide vapours.

In case of fire may form: metal oxides. Sulfur oxides, potassium oxides, sulfur trioxide vapours.

Exposed to high temperatures may release toxic and irritating gases.

Protect from heat to avoid caking.

## SECTION 11: TOXICOLOGICAL INFORMATION.

Products in powder form: Exposure to airborne concentrations above legal or recommended exposure limits may cause irritation of the nose, throat or lungs.

Exposure to concentrations above legal or recommended exposure limits may cause mild eye irritation (redness, tearing).

Although the product is not irritating, direct contact with the eyes may cause discomfort characterized by tearing or redness due to mechanical contact/abrasion.

Mechanical/abrasive skin contact may cause redness.

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### Main routes of exposure:

The main route of exposure under occupational conditions is via the respiratory tract, ingestion.

### **11.1 Information on hazard classes as defined in Regulation (EC) N° 1272/2008.**

a) acute toxicity;

Not conclusive data for classification.

Based on the long-term key study from Oneda et al. the calculated LD50-mouse oral should be > 2000 mg/kg bw.

NOAEL inhalation calculated from NOAEL oral:

NOAEL inhalation = 13.05 mg/m<sup>3</sup>.

The calculated LC50-inhalative should be > 5 mg/L (Limit CLP).

Based on the key study (ATSDR report and publication of Lansdown) the calculated LD50-dermal

of aluminium potassium bis sulphate from read across substance aluminium sulfate resulted in a calculated LD50-dermal of 100000 mg/kg bw.

Based on all acute toxicity results aluminium potassium bis sulphate is not classified as acute toxic oral, inhalation and dermal according to EU regulation 1272/2008. (ECHA).

b) skin corrosion/irritation;

Not conclusive data for classification.

Powdered product: may cause irritation by mechanical action.

c) serious eye damage/irritation;

Not conclusive data for classification.

Powdered product: may cause irritation by mechanical action.

d) respiratory or skin sensitisation;

Not conclusive data for classification.

e) germ cell mutagenicity;

Not conclusive data for classification.

f) carcinogenicity;

Not conclusive data for classification.

This product does not contain chemical components recognized as carcinogenic  $\geq 0.1\%$ .

IARC: not listed.

g) reproductive toxicity;

Not conclusive data for classification.

h) STOT-single exposure;

Not conclusive data for classification.

i) STOT-repeated exposure;

Not conclusive data for classification.

j) aspiration hazard;

Not applicable, solid.

### **11.2 Information on other hazards.**

#### **Endocrine disrupting properties**

This product does not contain components with endocrine-disrupting properties with effects on human health  $\geq 0.1\%$ .

#### **Other information**

There is no information available on other adverse health effects.

#### **Symptoms of acute poisoning (GESTIS):**

Eyes: irritant to corrosive effect.

Skin: astringent effect on contact with wet skin or concentrated solutions, the anhydrous salt may result in corrosion caused by dehydration.

Inhalation: moderate to severe irritation of mucous membranes, cough, dyspnea, risk of glottic oedema/bronchospasm, in severe cases pulmonary oedema cannot be ruled out.

Ingestion: metallic taste, concentration-dependent moderate to severe irritation or corrosion of mucous membranes, pain in the mouth, pharynx and abdomen, risk of glottic oedema and risk of subsequent development of strictures and perforation in the gastrointestinal tract, with the potential of late-onset perforation; nausea, vomiting and diarrhea possible.

Absorption: after oral intake of high doses, reduction of intestinal motility and constipation may occur; in rare cases, hemorrhagic gastritis and circulatory collapse.

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### SECTION 12: ECOLOGICAL INFORMATION.

#### 12.1 Toxicity.

It is not considered to pose a risk to the environment and, as such, is not classified as harmful or dangerous to the environment in accordance with Regulation (EC) No. 1272/2008 (EU CLP).

LC50 -96h freshwater fish: 110 mg/l

NOEC-7d freshwater fish: 5.58 mg/l

EC50/LC50-values are above 100 mg/l

NOEC for freshwater invertebrates is 21.54 mg /l

NOEC of freshwater algae is 133.3 mg/l

Toxicity to microorganisms the calculated EC50 for aluminium potassium bis(sulphate) is 630 mg/l. (ECHA).

#### 12.2 Persistence and degradability.

Soluble in water. Persistence is unlikely. Inorganic substance.

#### 12.3 Bioaccumulative potential.

Bioaccumulation is unlikely. Inorganic substance.

Study scientifically unjustified.

In aqueous solution the substance is completely dissolved and dissociated in the cations  $\text{Al}^{3+}$ ,  $\text{K}^{+}$  and anion  $\text{SO}_4^{2-}$  which are dissociation products of Aluminium sulfate and Potassium sulfate which have low bioaccumulation potential ( $\log K_{ow} < 3$ ). Therefore, the  $\log K_{ow}$  of the substance should be very low ( $\log K_{ow} < 3$ ). The BCF values of aluminium of most fish are  $< 300$  and depends on pH.

Based on the low  $\log K_{ow}$  and the BCF values of aluminium sulfate and aluminium and a therefore assumed low potential of bioaccumulation and adsorption of aluminium potassium bis sulphate, no further tests on the substance should be necessary (REACH regulation EU 1907/2006 Annex IX column 2).

#### 12.4 Mobility in soil.

No information is available about the mobility in soil.

The product is water soluble and can spread in aqueous systems. It will probably be mobile in the environment due to its solubility in water.

In aqueous solution the inorganic substance is dissolved and dissociated in their cations and anion  $\text{Al}^{3+}$ ,  $\text{K}^{+}$  and  $\text{SO}_4^{2-}$ .

The product must not be allowed to go into sewers or waterways.

Prevent penetration into the ground.

#### 12.5 Results of PBT and vPvB assessment.

This substance does not contain components considered to be persistent, bioaccumulative, toxic, (PBT) or very bioaccumulative and very persistent (vPvB)  $\geq 0.1\%$ .

#### 12.6 Endocrine disrupting properties.

This product does not contain components with environmental endocrine disrupting properties  $\geq 0.1\%$ .

#### 12.7 Other adverse effects.

The product is not affected by the Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer.

No information is available about other adverse effects for the environment.

### SECTION 13: DISPOSAL CONSIDERATIONS.

#### 13.1 Waste treatment methods.

Do not dump into sewers or waterways. Waste and empty containers must be handled and eliminated according to current, local/national legislation.

#### Waste management (disposal and evaluation):

Consult the authorized waste service manager on the assessment and disposal operations. In case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. We do not recommended disposal down the drain. See section 6.2.

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### **Regulations related to waste management:**

In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH) the community or state provisions related to waste management are stated Community legislation:

Follow the provisions of Directive 2008/98/EC, Decision 2014/955/UE, Directive (UE) 2018/851, Directive (UE) 2019/904 regarding waste management. EU-legislation: Regulation (EU) No. 1357/2014 and modifications.

It is not possible to assign a specific code, as it depends on the user's intended use.

## **SECTION 14: TRANSPORT INFORMATION.**

Transportation is not dangerous. In case of road accident causing the product's spillage, proceed in accordance with point 6.

### **14.1 UN number or ID number.**

Transportation is not dangerous.

### **14.2 UN proper shipping name.**

Description:

ADR/RID: Not classified as hazardous for transport.

IMDG: Not classified as hazardous for transport.

ICAO/IATA: Not classified as hazardous for transport.

### **14.3 Transport hazard class(es).**

Transportation is not dangerous.

### **14.4 Packing group.**

Transportation is not dangerous.

### **14.5 Environmental hazards.**

Transportation is not dangerous.

Transport by ship, FEm – Emergency sheets (F – Fire, S - Spills): Not applicable.

### **14.6 Special precautions for user.**

Transportation is not dangerous.

### **14.7 Maritime transport in bulk according to IMO instruments.**

Bulk transport is not foreseen.

## **SECTION 15: REGULATORY INFORMATION.**

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

#### Volatile organic compound (VOC)

VOC content (p/p): 0 %

VOC content: 0 g/l

The product is not affected by Regulation (EU) No 528/2012 concerning the making available on the market and use of biocidal products.

The product is not affected by the procedure established Regulation (EU) No 649/2012, concerning the export and import of dangerous chemicals.

Kind of pollutant to water (Germany): WGK 1: Slightly hazardous to water. (Autoclassified according to the AwSV Regulations)

**Candidate substances for authorization under Regulation (EC) 1907/2006 (REACH):** Not applicable

**Substances included in Annex XIV of REACH (authorization list):** Not applicable.

**Restrictions on the manufacture, placing on the market and use of certain substances, mixtures and articles included in Annex XVII of REACH:** Not applicable.

#### Special provisions for the protection of humans or the environment:

It is recommended to use the information compiled in this safety data sheet as input data in a risk assessment of the local circumstances to establish the necessary risk prevention measures for the handling, use, storage and disposal of this product.

### **15.2 Chemical safety assessment.**

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

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### SECTION 16: OTHER INFORMATION.

#### Legislation related to safety data sheets:

The SDS shall be supplied in an official language of the country where the product is placed on the market. This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) No 1907/2006 (COMMISSION REGULATION (EU) 2020/878).

#### Version history:

Version 1. date of issue 17/05/2021. Initial edition.

Version 2. revision date 28/05/2024. Relevant modifications:

Adaptation to Regulation (EU) 2020/878.

Section 1 (formula, structure, names are added).

Section 8 (dust exposure values).

Section 9 (physico-chemical data, particle size).

Section 10.

Section 11 (toxicological data).

Section 12 (ecological data).

Section 13 (residue regulations).

Section 15 (regulatory information).

#### Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

|                       |                              |
|-----------------------|------------------------------|
| Physical hazards      | On basis of test data        |
| Health hazards        | Calculation method/test data |
| Environmental hazards | Calculation method/test data |

It is recommended that the product only be employed for the purposes advised.

#### Abbreviations and acronyms used:

|          |                                                                                                                                                  |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| ADR:     | Agreement concerning the International Carriage of Dangerous Goods by Road.                                                                      |
| ATE:     | Acute toxicity estimation.                                                                                                                       |
| AwSV:    | Facility Regulations for handling substances that are hazardous for the water.                                                                   |
| BCF:     | Bioconcentration factor.                                                                                                                         |
| CAS:     | Chemical Abstract Service number.                                                                                                                |
| CEN:     | European Committee for Standardization.                                                                                                          |
| CLP:     | Regulation (EC) No. 1272/2008 on classification, labeling and packaging.                                                                         |
| DMEL:    | Derived Minimal Effect Level, exposure level corresponding to a low risk, that risk should be considered a tolerable minimum.                    |
| DNEL:    | Derived No Effect Level, level of exposure to the substance below which adverse effects are not anticipated.                                     |
| EC50:    | Half maximal effective concentration.                                                                                                            |
| EN:      | European Standard.                                                                                                                               |
| PPE:     | Personal protection equipment.                                                                                                                   |
| IARC:    | International Agency for Research on Cancer.                                                                                                     |
| IATA:    | International Air Transport Association.                                                                                                         |
| ICAO:    | International Civil Aviation Organization.                                                                                                       |
| IMDG:    | International Maritime Code for Dangerous Goods.                                                                                                 |
| LC50:    | Lethal concentration, 50%.                                                                                                                       |
| LD50:    | Lethal dose, 50%.                                                                                                                                |
| NOAEL:   | No-Observed Adverse Effect Level.                                                                                                                |
| NOEC:    | No observed effect concentration.                                                                                                                |
| OECD:    | Organization for Economic Cooperation and Development.                                                                                           |
| PNEC:    | Predicted No Effect Concentration, concentration of the substance below which adverse effects are not expected in the environmental compartment. |
| RID:     | Regulations Concerning the International Transport of Dangerous Goods by Rail.                                                                   |
| VLA/OEL: | Occupational exposure limit.                                                                                                                     |
| VLB:     | Biological limit value.                                                                                                                          |
| SDS:     | Safety Data Sheet.                                                                                                                               |
| UFI:     | Unique Formula Identifier.                                                                                                                       |
| WGK:     | Water hazard classes.                                                                                                                            |

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### Key literature references and sources for data:

<http://eur-lex.europa.eu/homepage.html>

<http://echa.europa.eu/>

Regulation (EU) 2020/878.

Regulation (EC) No 1907/2006.

Regulation (EC) No 1272/2008.

Supplier Safety Data Sheet.SDS.

GESTIS SUBSTANCE DATABASE

The information given in this Safety Data Sheet has been drafted in accordance with COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemical substances and mixtures (REACH).

The information in this Safety Data Sheet on the Preparation is based on current knowledge and on current EC and national laws, as far as the working conditions of the users is beyond our knowledge and control. The product must not be used for purposes other than those that are specified without first having written instructions on how to handle. It is always the responsibility of the user to take the appropriate measures in order to comply with the requirements established by current legislation. The information contained in this Safety Sheet only states a description of the safety requirements for the preparation, and it must not be considered as a guarantee of its properties.