

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

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

1.1. Product identifier

Trade name of mixture: Base aluminium sulphate solution.

Other means of identification: Unique formula identifier of the product according to the Regulation EU 2017/542 – **UFI:** T11F-NGCD-1JFG-DXE3.

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

1.2.1. Identified uses:

Industrial use:

1. Industrial use [SU8, SU9]: Production of aqueous solution of aluminium salts; maximum aluminium content: 25 % (PC not specified);
2. Industrial use [SU10]: Production and distribution of aluminium salts (aqueous solutions). Maximum aluminium content: 25 % (PC not specified);
3. Industrial use [SU6b, SU8, SU9, SU14]: Aluminium salts (aqueous solutions) are used as a chemical preparation in the synthesis process and as an intermediate product. Maximum aluminium content: 25 % (PC not specified);
6. Industrial use [SU2, SU5, SU6b, SU10, SU23]: Industrial and professional use of aqueous solutions of aluminium salts as a flocculant or coagulant for water and waste water treatment. Maximum aluminium content: 25 % (PC not specified);

Professional use:

6. Industrial use [SU2, SU5, SU6b, SU10, SU23]: Industrial and professional use of aqueous solutions of aluminium salts as a flocculant or coagulant for water and waste water treatment. Maximum aluminium content: 25 % (PC not specified);
7. Industrial use [SU9]: Use of aluminium salts; aqueous solution: in industrial and professional laboratory conditions. Maximum aluminium content: 25 % (PC not specified);

Use by downstream users: None.

1.2.2. Uses advised against: None.

1.3. Details of the supplier of the safety data sheet

Manufacturer: AB Achema

Address: Jonalaukio k. 1, Jonavos sen., LT-55296

Country: Lithuania

Tel. Nr.: + 370 349 56736

Manufacturer's website: www.achema.lt

Person responsible for the Safety Data Sheet: Dainius Šlepetis, d.slepetis@achema.com

1.4. Emergency telephone number

Please contact: Poison Information and Control Office in the Republic of Lithuania, phone: +370 52362052, mobile phone: +370 687 53378, website: <http://www.apsinuodijau.lt/information-in-english/>, or by the common emergency phone number 112.

AB Achema

Safety Data Sheet



In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH), with all subsequent amendments and supplements, and Commission Regulation (EU) No 2020/878

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

Helpdesk services work: 24 hours a day, 365 days a year.

Other assistance (language in which assistance is provided): assistance is provided in Lithuanian.

Poison Control Centres in Europe are available on site <http://www.who.int/pcs/poisons/centre/directory/euro/en/>. Telephone numbers of poison control centres in the European Economic Area: **IRELAND** (Dublin) +353 1 8379964; **AUSTRIA** (Vienna) +43 1 406 43 43; **BELGIUM** (Brussels) +32 70 245 245; **BULGARIA** (Sofia) +359 2 9154 409; **CZECH REPUBLIC** (Prague) +420 224 919 293; **DENMARK** (Copenhagen) 82 12 12 12; **ESTONIA** (Tallinn) 112; **GREECE** (Athens) +30 10 779 3777; **ICELAND** (Reykjavik) +354 525 111, +354 543 2222; **ITALY** (Rome) +39 06 305 4343; **LATVIA** (Riga) +371 704 2468; **MALTA** (Valletta) 2425 0000; **NORWAY** (Oslo) 22 591300; **NETHERLANDS** (Bilthoven) +31 30 274 88 88; **FRANCE** (Paris) +33 1 40 0548 48; **FINLAND** (Helsinki) +358 9 471 977; **SWEDEN**, if urgent 112; otherwise +46 040 456 6700; **HUNGARY** (Budapest) 06 80 20 11 99; **GERMANY** (Berlin) +49 30 19240.

SECTION 2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008 [CLP]:

In Lithuanian

Smalkus akių pažeidimas 1 kat., H318,
Gali ėsdinti metalus 1 kat., H290.

In English

Eye Dam. 1, H319;
Met. Corr. 1, H290.

2.1.2. Additional information: None.

2.2. Label elements

Labelling in accordance with Regulation (EC) No 1272/2008 [CLP]:

Hazard pictograms:



(GHS05)

Signal word: HAZARD

Hazard statements:

H290: May be corrosive to metals.

H318: Causes serious eye damage.

AB Achema
Safety Data Sheet



In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH), with all subsequent amendments and supplements, and Commission Regulation (EU) No 2020/878

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

Precautionary statements:

P234: Keep only in original packaging.
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.
P390: Absorb spillage to prevent material damage.
P406: Store in a corrosion resistant container with a resistant inner liner.
Supplemental hazard information (EUH): Not applicable.

2.3. Other hazards

The product has weak acidic properties. The product does not meet the PBT or vPvB criteria in accordance with Annex XIII of Regulation (EC) No 1907/2006.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Under the REACH regulation, this product is treated as a mixture.

Identity of the components of the mixture.

CAS No:	EC No:	Identification number according to Regulation (EC) No 1272/2008	REACH registration number:	Mass fraction, %	Name	Classification according Regulation (EC) No 1272/2008 requirements
10043-01-3	233-135-0	Not applicable	01-2119531538-36-0067	Minimum 25	Aluminium sulphate	Serious eye damage, cat H318, May be corrosive to met cat. 1, H290 (May be corrosive to met cat. 1, only applicable aqueous solution aluminium sulphate; sou a dossier of alumin sulphate registration un REACH)

SECTION 4. FIRST-AID MEASURES

4.1. Description of first aid measures

General information

The substance can get through: inhalation, skin contact, eye contact, ingestion.

Inhalation: Take the affected person out into the fresh air. Rinse his/her nose and mouth with clean water. If symptoms persist, seek medical advice.

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

Skin contact: Wash the affected area with plenty of water and soap. Remove the contaminated clothing and wash it before re-using it. If symptoms persist, seek medical advice.

Eye contact: Immediately wash the eyes with plenty of lukewarm water. Remove contact lenses, if present and easy to do. Lift the eyelids and keep washing the eyes. Immediately seek medical advice. Continue washing the eyes during transportation of the affected person to the hospital.

If swallowed: Immediately seek medical advice. Do not induce vomiting. Rinse the mouth with water, drink one or two glasses of clean water or milk. Do not put anything in the mouth of the unconscious person.

Personal protective equipment recommended for first aid responders: Wear gloves, and wash hands with soap and water after contact with the product. Avoid contact with eyes, skin, clothing. See also Sections 6 and 8 of this SDS. Protective gloves according to LST EN 420.

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

If inhaled: There is no available data proving that inhalation of the product may cause adverse symptoms. The resorption of aluminium ions through the respiratory tract is thought to be negligible, and they can enter the bloodstream almost exclusively through the gastrointestinal tract.

Skin contact: Redness, irritation, inflammation of the skin.

Eye contact: Serious eye damage.

Ingestion: The product is not classified as acute toxic in accordance with Regulation (EC) No 1272/2008; however, if swallowed, it may cause acute or delayed adverse health effects.

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

None.

SECTION 5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing measures: Use extinguishing measures suitable for extinguishing the surrounding fire in a particular case, such as carbonic acid, powder, foam, water jet.

Unsuitable extinguishing measures: None.

5.2. Special hazards arising from the substance or mixture

When heated at a temperature higher than that of decomposition, sulphur oxides (SO_x) may be released. The product is non-explosive and non-flammable.

5.3. Advice for firefighters

Use autonomous breathing apparatuses in the event of a fire in accordance with LST EN 402. Firefighters must wear fire-resistant protective clothing and personal protective equipment (protective shoes, protective work clothes, protective gloves, eye and face protection, respiratory protection) in accordance with LST EN 469.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel: In the event of an emergency, use the personal protective equipment

Base aluminium sulphate solution

Revision date: 28/02/2026

Version No: 12.0

Revision No: 0

Amendment date: 28/02/2026

specified in Section 8.2 of this SDS. Comply with the safety requirements for handling the product specified in Section 7 of this SDS. In the event of dust, aerosols or mist, use semi-masks in accordance with LST EN 149 or gas masks with B/P2 filter in accordance with LST EN 14387.

For emergency responders: In the event of an emergency, use the personal protective equipment specified in Section 8.2 of this SDS. Comply with the safety requirements for handling the product specified in Section 7 of this SDS. In the event of dust, aerosols or mist, use semi-masks in accordance with LST EN 149 or gas masks with B/P2 filter in accordance with LST EN 14387. If the product contaminates the clothes, take them off and replace them with clean clothes. Wear gloves, and wash hands with soap and water after contact with the product. Rescuers must use fire-resistant suits, canvas fire-fighting suits, rubber vulcanised fire-fighting boots, fire-resistant gloves, acid-resistant gloves, protective helmets in accordance with LST EN 469. Collect as much spilled product as possible using dry sand or other adsorbent. To neutralise the product use soda or other alkaline substances. Put the collected product in a waste container.

6.2. Environmental precautions

Protect the product from entering the sewer system. If the product has entered the sewer, river or lake and contaminated them, inform the public authorities. Limit the spread of spills using an inert absorbent material (sand, gravel). Collect as much of the spilled product as possible in a sealed container.

6.3. Methods and material for containment and cleaning up

Pump large quantities of spilled product using a vacuum loader. Collect and clean small quantities. Dilute liquid residues with water and neutralise with lime. Waste must be disposed of in accordance with national legislation. Rinse the contaminated area well with water.

6.4. Reference to other sections

See Section 8.2 of this SDS on personal protective equipment and Section 13 of this SDS on waste management.

SECTION 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Protective measures: Production facilities, laboratories and other places where the product is used must be equipped with exhaust ventilation in accordance with the requirements of STR 2.09.02:2005 "Heating, Ventilation, Air Conditioning" to prevent the accumulation of harmful amount of substances in the indoor air. Equipment must be airtight. Avoid any spread of the product in the environment. The work must be organised in such a way as to avoid direct contact with the product or to reduce it to a minimum. Wear personal protective equipment specified in Section 8.2 of this SDS. The risks that may arise under specific working conditions must be assessed. Possible contact with the product must be evaluated. Special vessels containing eye-washing liquid or emergency eye-washing showers must be available/equipped at workplaces.

Recommendations for the general hygiene practice at work: In the working environment where the product is used and stored, eating, smoking, drinking is strictly prohibited. Wash hands with soap and water after working with the product. Remove contaminated clothing and protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage spaces and containers: The base aluminium sulphate solution shall be pre-packaged and poured into clean-washed vehicles and transportable containers as presented below:

- Barrels, canisters, cisterns and other containers made of polyethylene or covered with acid-resistant coatings to

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

ensure the safe transportation and storage of the product;

- Railway tanks made of corrosion-resistant steel 12Ch18N10T (Russian: 12X18H10T), or bi-metal VCt3sp2 + 12Ch18N10T (Russian: BCt3cn2 + 12x18h10t), or rubberised inside tanks;
- Tankers made of corrosion resistant steel 12Ch18N10T (12X18H10T) or analogous steel.

Store the product in a sealed corrosion-resistant container, in dry sealed warehouses to protect the product from sun and moisture. Avoid freezing. Containers with solutions of base aluminium sulphate must be stored at a temperature -20 °C and above.

The maintenance of stationary containers of the product in Lithuania is performed in accordance with the amendment of the Order No. A1-178 of the Republic of Lithuania of 30 May 2008 “On approval of the rules for maintenance of stationary non-pressurized containers of hazardous substances and mixtures”, Order No. A1-1132 of the Ministry of Social Security and Labour of the Republic of Lithuania of 20th of November 2020.

When storing the product in Lithuania in stationary containers with a volume of more than 50 m³, these containers must be registered with the state register management institution in accordance with the Chief State Labor Inspector of the Republic of Lithuania order No. 1-178 of 1st of August 2006 “On the Approval of the List-Classification of Potentially Dangerous Equipment to be Registered in the State Register, Indicating Their Parameters”. When storing the product in other countries, the storage requirements in force in those countries must be complied with.

Incompatible materials: Keep separate from incompatible materials, such as acid-resistant metals (for example, aluminium, copper, iron), alkalis, non-alloy steel, galvanised surfaces. Contact with other bulk chemicals is to be avoided.

The product is not subject to restrictions in accordance with Resolution No 966 of the Government of the Republic of Lithuania of 17 August 2004 “On the Approval of Regulations on Prevention of, Response to and Investigation of Industrial Accidents and of the List of Substances, Mixtures or Preparations Classified as Dangerous Substances Contained in Dangerous Facilities and the Description of the Criteria for Classifying Substances, Mixtures or Preparations as Dangerous” (Official Gazette, 2004, No 130-4649), with all subsequent amendments and additions, and Directive 2012/18/EU.

7.3. Specific end use(s)

Base aluminium sulphate solution (BAST) is used in industry as a coagulant for the clarification of natural waters for industrial and human use, sewage treatment, paper industry.

A modified solution of base aluminium sulphate (BAST-M) is used for cleaning the sewage water.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Limit value of substance, preparation component in working ambient air:

Long-term exposure limit (LTEL): Aluminium sulphate LTEL is not specified in the Lithuanian Hygiene Standard HN23. LTEL of the original raw materials of the product according to the Lithuanian Hygiene Standard HN23: aluminium hydroxide: 6 mg/m³; sulphuric acid (mist): 0.05 mg/m³.

Short-term exposure limit (STEL): STEL of aluminium sulphate and its original raw material (aluminium hydroxide) is not covered by the HN23 Hygiene Standard. STEL of the original raw material of the product (sulphuric acid (mist)) according to the Lithuanian Hygiene Standard HN23 is 3 mg/m³.

Threshold limit value (TLV): Not applicable to the product and original raw materials (aluminium hydroxide)

AB Achema
Safety Data Sheet



In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH), with all subsequent amendments and supplements, and Commission Regulation (EU) No 2020/878

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

and sulphuric acid) according to the Lithuanian Hygiene Standard HN23.

Occupational exposure limit value(s) according to Directive 98/24/EC: Not applicable to the product.

Occupational exposure limit value(s) according to Directive 2004/37/EC: Not applicable to the product.

Any other national occupational exposure limit values: No data available.

Derived no-effect level(s) (DNEL). The aluminium sulphate DNEL specified in the dossier of aluminium sulphate registration under REACH are shown in the tables.

Hazard to workers

Route of exposure	Type of exposure	Hazard	Physicochemical property that cause the greatest negative effect
Through skin	Systemic effect – acute	No hazard identified.	
Inhalation	Systemic effect – acute	No hazard identified.	
Through skin	Local effect – acute	No hazard identified.	
Inhalation	Local effect – acute	No hazard identified.	
Through skin	Systemic effect – prolonged	3.8 mg/kg bw/d	Neurotoxicity
Inhalation	Systemic effect – prolonged	DNEL: 13.4 mg/cm ³	Neurotoxicity
Through skin	Local effect – prolonged	No hazard identified.	
Inhalation	Local effect – prolonged	No hazard identified.	
Through eyes	Local effect	Average hazard (no limit set)	

Hazard to the general public

Route of exposure	Type of exposure	Hazard	Physicochemical property that cause the greatest negative effect
Through skin	Systemic effect – acute	No hazard identified.	
Inhalation	Systemic effect – acute	No hazard identified.	
Through skin	Local effect – acute	No hazard identified.	
Inhalation	Local effect – acute	No hazard identified.	
Through skin	Systemic effect – prolonged	1.9 mg/kg bw/d	Neurotoxicity
Inhalation	Systemic effect – prolonged	DNEL: 3.3 mg/cm ³	Neurotoxicity
Through skin	Local effect – prolonged	No hazard identified.	
Inhalation	Local effect – prolonged	No hazard identified.	
Through eyes	Local effect	Average hazard (no limit set)	

Predicted no-effect concentration(s) (PNEC). The aluminium sulphate PNEC values specified in the dossier of aluminium sulphate registration under REACH are shown in the table.

Environmental task	PNEC value, mg/l
Fresh water	No hazard identified.
Fresh water sediment	No hazard identified.
Sea water	No hazard identified.
Seawater sediment	No hazard identified.
Food chain	Currently no data are available or the available data are insufficient.
Micro-organisms in waste water treatment plants	No hazard identified.
Soil (agricultural use)	Insufficient data on risks (additional information needed).
Air	No hazard identified.

Base aluminium sulphate solution

Revision date: 28/02/2026
 Version No: 12.0
 Revision No: 0
 Amendment date: 28/02/2026

In the production, storage and use of base aluminium sulphate solution, air measurements (monitoring) of the sulphuric acid substance must be carried out. The production and professional use of base aluminium sulphate solution must be in accordance with the requirements of the Order No 97/406 of the Ministry of Social Security and Labour and the Minister of Health of the Republic of Lithuania of 24 July 2001 “On the Approval of Regulations on Protection of Employees from Risks Related to Exposure to Chemical Agents at Work and Regulations on Protection of Employees from Risks Related to Exposure to Carcinogens and Mutagens at Work” (Official Gazette, 2001, No 65-2396, identification code of the Register of Legislation: 1012230ISAK0097/406) with any subsequent amendments and additions.

8.2. Exposure controls

8.2.1. Appropriate engineering controls: Supply-exhaust ventilation.

8.2.2. Individual protection measures, such as personal protective equipment: Avoid contact with eyes, skin or clothing. Wear protective gloves/protective clothing/eye protection/face protection.

8.2.2.1. Eye/face protection: An appropriate and adequate eye protection must be worn, such as chemically resistant hermetic safety goggles or face protection shield according to LST EN ISO 16321-1 and LST EN ISO 16321-3. Full face protection is recommended.

8.2.2.2. Skin protection

Hand protection:

Wear protective gloves that meet the requirements of LST EN 420, LST EN ISO 21420 for protection against chemical hazards, LST EN 388 for protection against mechanical hazards. Protective gloves must be made of one of the materials specified in the table, of a thickness not less than that indicated and of resistance to penetration.

Glove material	Glove thickness, mm	Time of penetration through the glove material, min*
Butyl rubber, butyl	0.50	> 480
Fluorocarbon rubber	n.m. 0.40	> 480

*The time of penetration through the glove material is the time the product that comes into contact with the glove fully penetrates it. The shorter the penetration time, the less resistant the glove material is to the product.

The user of the product must choose a suitable material of the gloves from the available materials, taking into account the nature of the work, the likelihood of contact of the gloves with the product and the possible duration of contact. For regular work with the product, it is recommended to use glove materials with a penetration time of 480 minutes or more. When working with the product, gloves can not be used longer than the duration of penetration.

Skin protection creams do not provide sufficient protection against the product.

Please note that the time of penetration through the glove material was determined at 22 °C using pure aluminium sulphate. When the product is used at temperatures above 22 °C or when the product is used in mixtures with other substances, the resistance of the glove material may be reduced and the allowed life of the glove should be reduced in such cases.

We recommend that when you start using gloves of a new type or other manufacturer, make sure that the gloves are sufficiently chemically and mechanically resistant to the current operating conditions. If you have any questions regarding the suitability of the gloves in question, please contact the glove manufacturers/suppliers.

The inside of the gloves should not contain powder, which can cause allergies to the hand skin.

Please always make sure there are no tears, cracks or other defects before putting the gloves on. When the work is finished, the gloves must be cleaned and washed thoroughly before taking them off. After the work, sufficient attention must be paid to hand skin care.

Other protective equipment: Protective workwear according to LST EN ISO 13688, a rubber apron, rubber work boots according to LST EN ISO 20345.

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

8.2.2.3. Respiratory protection: Wear gas masks with the B/P2 filter in accordance with LST EN 14387 in emergency situations (such as accidental spillage of the product). Do not use filters for longer than it is permitted by the documentation provided by the filter manufacturers. If the air contains less than 18 % of oxygen, insulating gas masks or compressed air breathing apparatuses in accordance with LST EN 402 must be used.

Hygiene requirements: When handling the product, observe the regular hygiene rules for handling chemicals: do not eat, drink or smoke. It is necessary to wash the skin with water and soap before taking breaks, smoking, eating, using the toilet and after the work. Take all possible precautions to prevent the product from contact with eyes. If the product contacts eyes, immediately wash the eyes with plenty of lukewarm water. Remove contact lenses, if present and easy to do. Lift the eyelids and keep washing the eyes. Immediately seek medical advice. Continue washing the eyes during transportation of the affected person to the hospital.

8.2.3. Environmental exposure controls: Prevent access to the sewer system and the environment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

- a) **Physical state:** liquid at a temperature of 20 °C and a pressure of 1013 hPa.
- b) **Color:** Colourless. The product may have a slight hue and turbidity.
- c) **Odour:** Specific faint smell.
- d) **Melting and solidifying temperature:** pour point -20 °C.
- e) **Boiling point or initial boiling point and boiling range:** unknown, no literature data are available.
- f) **Flammability:** non-flammable.
- g) **Upper and lower explosion limits:** Non-flammable, non-explosive.
- h) **Flash point:** not applicable to non-combustible solutions of inorganic substances.
- i) **Auto-ignition temperature:** not applicable to non-combustible solutions of inorganic substances.
- j) **Decomposition temperature:** not applicable to non-combustible solutions of inorganic substances.
- k) **pH:** Not less than 2.5.
- l) **Kinematic viscosity:** unknown, no literature data are available.
- m) **Solubility:** Not applicable to solutions.
- n) **Partition coefficient: n-octanol/water (logarithmic value):** not applicable to solutions of inorganic substances.
- o) **Vapour pressure:** not applicable to non-combustible solutions of inorganic substances.
- p) **Density and / or relative density:** not less than 1.20 g/cm³ at 20 °C.
- q) **Relative vapor density:** not applicable to the product.
- r) **Fraction properties:** not applicable as the product is a liquid.

9.2. Other information

No additional data that are relevant to the safety and health of users and to environment protection.

SECTION 10. STABILITY AND REACTIVITY

10.1. Reactivity

The product is stable when the required conditions of storage, transportation and use are ensured. (see Section 7 "Handling and Storage" of this SDS).

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

10.2. Chemical stability

The product is stable when the required conditions of storage, transportation and use are ensured. (see Section 7 "Handling and Storage" of this SDS). Stabilisers are not required.

10.3. Possibility of hazardous reactions

When heated at a temperature higher than that of decomposition, sulphur oxides SO_x can be released.

10.4. Conditions to avoid

Avoid freezing. Containers with base aluminium sulphate solutions must be stored at temperatures -20 °C and above. Avoid high ambient temperatures. Protect the product from the sun and moisture. Contact with other bulk materials is not permitted.

10.5. Incompatible materials

Acid-sensitive metals (for example, aluminium, copper, iron), alkalis, non-alloy steel, galvanised surfaces.

10.6. Hazardous decomposition products

When heated at a temperature higher than that of decomposition, sulphur oxides (SO_x) may be released.

SECTION 11. TOXICOLOGICAL INFORMATION

The data in this section are taken from the dossier of aluminium sulphate registration under REACH.

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity:

Acute oral toxicity. The results of a study (Scholler, 1975) conducted by the OECD 401 method are considered as the main source of data. Aluminium sulphate hydrate diluted in water was administered to rats at doses of 2,000 mg/kg and 5,000 mg/kg. No deaths or clinical signs were observed at the 2,000 mg/kg bw dose. All ten animals died on the first or second day at the dose of 5,000 mg/kg bw. Clinical signs: depression and wrinkled skin. Chest tests showed a very red edge of the lungs and/or swelling in the stomach. Based on this study, the acute oral toxicity of aluminium sulphate LC50 is higher than 2,000 mg/kg bw but lower than 5,000 mg/kg bw.

Acute dermal toxicity. The results of a study (Scholler, 1975) conducted according to the OECD 402 method are considered as the main source of data. Single doses of 5,000 mg/kg bw of aluminium sulphate hydrate were applied to the skin of rabbits for 24 hours. After 24 hours, no deaths were registered. The next day, all rabbits were normal in appearance and behavior, however, skin irritation such as erythema and haemorrhage was detected. Based on this study, the acute dermal toxicity of aluminium sulphate LC50 (24-hour test) is greater than 5,000 mg/kg bw.

Acute inhalation toxicity. No studies have been performed with aluminium sulphate. Studies with similar substances conducted according to OECD 403 method have not shown any clinical or systemic effects. In rats, the LC50 inhalation value of 4 hours was found to exceed 5 mg/l. Based on the results of these studies, it was concluded that aluminium sulphate is not harmful if inhaled.

Conclusion on acute toxicity: As the aluminium sulphate LC50 is higher than 2,000 mg/kg, it does not meet the criteria for the classification as acute toxic in accordance with Regulation (EC) No 1272/2008.

Skin corrosion/irritation: A study (Tuffnell, 1990) conducted according to OECD 404 assay method was used as the main data source. Three rats were exposed to 0.5 g of ALUM-17 powder (17 % Al₂O₃) moistened with

Base aluminium sulphate solution

Revision date: 28/02/2026

Version No: 12.0

Revision No: 0

Amendment date: 28/02/2026

distilled water (0.5 ml) through the skin for 4 hours. Skin irritation was assessed by Draize method in 1, 24, 48 and 72 hours after the exposure. No skin irritation was observed during the study. 24, 48 and 72 hours later, the degree of the skin irritation in all three animals was 0, 0 and 0 for erythema and 0, 0 and 0 for oedema. According to the available data, aluminium sulphate does not meet the criteria for the classification as the skin corrosion and/or irritation in accordance with Regulation (EC) No 1272/2008.

Respiratory or skin sensitisation: Study (van Huygevoort, 2009, Kr. 1) conducted according to OECD 429 method was used as the main data source. The animals were exposed to 10 %, 25 % and 50 % aluminium sulphate. After the study, no deaths were registered. No ear sensitisation was observed in all animals exposed to 10 % and 25 % aluminium sulphate and in three animals exposed to 50 % aluminium sulphate. A mild sensitisation was observed in two animals exposed to 50 % aluminium sulphate. According to the available data, aluminium sulphate does not meet the criteria for the classification as respiratory or skin sensitisation in accordance with Regulation (EC) No 1272/2008.

Germ cell mutagenicity: Studies conducted according to the OECD 471, OECD 476 and OECD 487 methods did not indicate mutagenicity or genotoxicity of aluminium sulphate. According to the available data, aluminium sulphate does not meet the criteria for the classification as mutagenic in accordance with Regulation (EC) No 1272/2008.

Carcinogenicity: According to the available data, aluminium sulphate does not meet the criteria for the classification as carcinogenic in accordance with Regulation (EC) No 1272/2008.

Reproductive toxicity: According to the available data, aluminium sulphate does not meet the criteria for the classification as toxic to reproduction in accordance with Regulation (EC) No 1272/2008.

Specific target organ toxicity (STOT) (single exposure): According to the available data, aluminium sulphate does not meet the criteria for the classification as specific target organ toxicity (single exposure) in accordance with Regulation (EC) No 1272/2008.

Specific target organ toxicity (STOT) (repeated exposure): According to the available data, aluminium sulphate does not meet the criteria for the classification as specific target organ toxicity (repeated exposure) in accordance with Regulation (EC) No 1272/2008.

Aspiration hazard: None.

11.2. Information on the other hazards

11.2.1. Endocrine disrupting properties: not specific to the product.

11.2.2. Other information: None.

SECTION 12. ECOLOGICAL INFORMATION

12.1. Toxicity

According to the available data, the product does not meet the criteria for the classification as hazardous to the environment in accordance with Regulation (EC) No 1272/2008.

Fish: LC₅₀ 235 mg/l/96 h (*Gambusia affinis*) (based on dissolved AL³⁺ ions).

12.2. Persistence and degradability

Not applicable for inorganic compounds.

12.3. Bioaccumulative potential

No literature data.

AB Achema
Safety Data Sheet



In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH), with all subsequent amendments and supplements, and Commission Regulation (EU) No 2020/878

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

12.4. Mobility in soil

No literature data.

12.5. Results of PBT and vPvB assessment

PBT and vPvB criteria are not met in accordance with Annex XIII to the REACH Regulation.

12.6 Endocrine disrupting properties:

No data available.

12.7. Other adverse effects

Substances containing Al^{3+} and SO_4^{2+} ions are dangerous for aquatic organisms.
From 0.55 mg/l for fish, from 136 mg/l for crustaceans and from 1.5 mg/l for algae (amounts of dissolved Al^{3+}).
From 7 mg/l for fish, from 2.5 mg/l for bacteria (amounts of dissolved SO_4^{2+}).

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues. In accordance with Regulation (EU) No 1357/2014, product waste is classified as hazardous waste by the codes: **HP4** "Irritant – skin irritation and eye damage", hazard statement code H318 "Causes serious eye damage". Product waste must be transferred to waste management companies. Product waste in Lithuania must be handled in accordance with the Law of the Republic of Lithuania on Waste Management and in accordance with the requirements of national legislation in other countries. The final waste code must be assigned by the waste holder/handler. It is recommended not to encourage the disposal of the product with sewage.

Product packaging waste. In accordance with Regulation (EU) No 1357/2014, Product packaging waste contaminated by the product is classified as hazardous waste under the code **HP4** "Irritant – skin irritation and eye damage", hazard statement code H318 "Causes serious eye damage". Product packaging waste must be transferred to waste management companies. Product packaging waste in Lithuania must be handled in accordance with the Law of the Republic of Lithuania on Waste Management and in other countries in accordance with the requirements of national legislation.

SECTION 14. TRANSPORT INFORMATION

14.1. UN Number or ID Number

UN No. 3264

14.2. UN proper shipping name

Base aluminium sulphate solution

14.3. Transport hazard class(es)

8

14.4. Packing group

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

III

14.5. Environmental hazards

Classified as a dangerous substance (corrosive liquid, acidic, inorganic, N.O.S.), based on the UN Orange Book and RID (Rail), ADR (Road Transport) and IMDG (Maritime Transport) international transport codes.

14.6. Special precautions for users

Containers with solutions of base aluminium sulphate must be transported at a temperature -20 °C and above.

14.7. Carriage of bulk cargoes by sea in accordance with IMO measures

The product is packed in packaging for carriage and therefore is not subject to IMO measures.

SECTION 15. REGULATORY INFORMATION

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

EU legislation:

- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (published in the Official Journal of the European Union L 396/1, 2006) with all subsequent amendments and additions;
- Commission Regulation no. (EU) 2020/878 amending Regulation of the European Parliament and of the Council Annex II to Regulation (EC) No 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) (published in Official Journal of the European Union L 203 of 26 June 2020);
- Commission Regulation (EC) No 552/2009 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as regards Annex XVII (published in the Official Journal of the European Union L 164, 2009), with any subsequent amendments and additions;
- Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (published in the Official Journal of the European Union L353/1 2008), with any subsequent amendments and additions;
- Commission Regulation (EC) No 1357/2014 of 18 December 2014 replacing Annex III to Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives (published in the Official Journal of the European Union No L365/89, 2014), with any subsequent amendments and additions;
- Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC (published in the Official Journal of the European Union L197/1, 2012), with any subsequent amendments and additions;
- Regulation (EU) 2019/1148 of the European Parliament and of the Council 20th of June 2019 on trade in and use of explosives precursors and amending Regulation (EC) No. 1907/2006 and repealing Regulation (EU) No. 98/2013 (published in the Official Journal of the European Union L 186/1, 2019) as subsequently amended and supplemented;
- European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) (Official Gazette, 2001, No 91-3349, identification code of the Register of Legislation 103T001SUTARG031675), with any subsequent amendments

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

and additions;

- “2017 March 22 Commission Regulation (EU) 2017/542 amending Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labeling and packaging of substances and mixtures by adding an Annex on harmonized information on emergency health emergencies with any subsequent amendments and additions”;
- Regulations concerning the International Carriage of Dangerous Goods by Rail (RID);
- International Maritime Dangerous Goods Code (IMDG);
- 1973 International Convention for the Prevention of Pollution from Ships (Official Gazette, 2004, No 138-5030, identification code of the Register of Legislation: 073T001KONVRG731618), with any subsequent amendments and additions;
- International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code) (the IBC Code), with any subsequent amendments and additions;
- Guide on safety data sheets and exposure scenarios (European Chemicals Agency, 2018. Reference: ECHA-18-G-07-LT), with all subsequent amendments and additions.

National legislation (Lithuania):

- The Law of the Republic of Lithuania on Waste Disposal (16 June 1998, No VIII-787) (Official Gazette, 1998, No 61-1726, identification code of the Register of Legislation: 0981010ISTAVIII-787), with any subsequent amendments and additions;
- Law of the Republic of Lithuania on Package and Package Waste Handling (25 September 2001, No IX-517) (Official Gazette, 2001, No 85-2968, identification code of the Register of Legal Acts 1011010ISTA00IX-517), with any subsequent amendments and additions;
- Order No V-824/A1-389 of the Minister of Health and the Minister of Social Security and Labour of the Republic of Lithuania of 1 September 2011 “On the Approval of Lithuanian Hygiene Standard HN 23:2011 ‘Indicative Occupational Exposure Limit Values of Chemical Substances. General Requirements for Measurement and Exposure assessment’” (Official Gazette, 2011, No 112-5274, identification code of the Register of Legislation: 1112250ISA4/A1-389), with any subsequent amendments and additions;
- Order No 97/406 of the Minister of Health of the Republic of Lithuania of 24 July 2001 “On the Approval of Regulations on Protection of Employees from Risks Related to Exposure to Chemical Agents at Work and Regulations on Protection of Employees from Risks Related to Exposure to Carcinogens and Mutagens at Work” (Official Gazette, 2001, No 65-2396, identification code of the Register of Legislation: 1012230ISAK0097/406), with any subsequent amendments and additions;
- Applicable “Procedure for Safety Data Sheet Requirements and its Submission to Professional Users”;
- Order No 170 of the Minister of Economy of the Republic of Lithuania of 15 May 2002 “On the Rules on Labelling and Indication of Prices of Items (Goods) for Sale in the Republic of Lithuania” (Official Gazette, 2002, No 50-1927, identification code of the Register of Legislation: 1022020ISAK00000170), with any subsequent amendments and additions;
- Amendment to Order No. A1-178 of Minister of Social Security and Labor of the Republic of Lithuania of 30 May 2008 “On Approval of the Rules for the Maintenance of Stationary Unpressurized Tanks of Dangerous Substances and Mixtures”, Order No. A1-1132 of the Minister of Social Security and Labor of the Republic of Lithuania;
- Chief State Labor Inspector of the Republic of Lithuania in of 2006 August 1 Order No. 1-178 “On the Approval of the List-Classification of Potentially Dangerous Equipment to be Registered in the State Register, Indicating Their Parameters”;
- Order No 217 of the Minister of Environment of the Republic of Lithuania of 14 July 1999 “On the Approval of Waste Management Rules” (Official Gazette, 1999, No 63-2065, identification code of the Register of Legislation:

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

099301MISAK00000217), with any subsequent amendments and additions.

- LST EN 149 Respiratory protective devices. Filtering half masks to protect against particles. Requirements, testing, marking;
- LST EN 388 Protective gloves against mechanical risks;
- LST EN 402 Respiratory protection devices. Lung governed demand self-contained open-circuit compressed air breathing apparatus with full face mask or mouthpiece assembly for escape. Requirements, testing, marking.
- LST EN 420 Protective gloves. General requirements and test methods.
- LST EN 469 Protective clothing for firefighters. Performance requirements for protective clothing for firefighting;
- LST EN ISO 13688 Protective clothing. General requirements (ISO 13688:2013);
- LST EN 14387 Respiratory protective devices. Gas filter(s) and composite filter(s). Requirements, testing, marking;
- LST EN 14605 Protective clothing against liquid chemicals. Performance requirements for clothing with liquid-tight (Type 3) or spray-tight (Type 4) connections, including items providing protection to parts of the body only (Types PB [3] and PB [4]);
- LST EN ISO 16321-1 „Eye and face protection equipment for work”. Part 1. General requirements (ISO 16321-1:2021)“;
- LST EN ISO 16321-3 „Eye and face protection equipment for work”. Part 3. Additional requirements for mesh guards (ISO 16321-3:2021)“;
- LST EN ISO 20345 „Personal protective equipment. Safe footwear (ISO 20345: 2011)“;
- LST EN ISO 21420 „Protective gloves. General requirements and test methods“.

Additional information on relevant Community provisions on safety, health and the environment for the product:

The product is not subject to restrictions in accordance with Resolution No 966 of the Government of the Republic of Lithuania of 17 August 2004 “On the Approval of Regulations on Prevention of, Response to and Investigation of Industrial Accidents and of the List of Substances, Mixtures or Preparations Classified as Dangerous Substances Contained in Dangerous Facilities and the Description of the Criteria for Classifying Substances, Mixtures or Preparations as Dangerous” (Official Gazette, 2004, No 130-4649), with all subsequent amendments and additions, and Directive 2012/18/EU.

Restrictions on the product due to Regulation (EU) No 2019/1148: the product is not subject to restrictions under this EU Regulation.

Additional information on the label of the substance/mixture container:

- visual mark No 14 (lower limit minus 20) according to LST EN ISO 780.

15.2. Chemical safety assessment

In accordance with Regulation (EC) No 1907/2006, a chemical safety assessment has been carried out for the product (see Annex).

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

SECTION 16. OTHER INFORMATION

- **Revision date:** 28/02/2026
- **Version number:** 12.0
- **Revision number:** 0
- **Amendment date:** 28/02/2026

(i) Indicate amendments: The following amendments were made to the safety data sheet compared to its previous version:

- The headline: Revision date, version number and issuing date of this safety data sheet has been changed;
- section 16: revision date, version number and issuing date of this safety data sheet has been changed.

(ii) Abbreviations and acronyms:

ADR – European Agreement on Dangerous Goods by Road;
ATE – acute toxicity estimate;
C&L – classification and labelling;
CLP – Classification, Labelling and Packaging Regulation; Regulation (EC) No 1272/2008;
CAS – Chemical Abstracts Service;
CSR – Chemical Safety Report;
DMEL – Derived Minimum Effect Value;
DNEL – Derived No-Effect Value;
EC – European Community;
EC₅₀ – effective concentration for 50 % of the tested population;
EC No – EINECS and ELINCS numbers;
ECHA – European Chemicals Agency;
EFMA - European Fertiliser Manufacturers Association;
EINECS – European List of Existing Commercial Chemical Substances;
ELINCS – European List of Notified Chemical Substances;
EC – European Commission;
EN – European norm;
EU – European Union;
Eye Dam. – Serious eye damage;
GHS – Globally Harmonised System;
HN – hygiene standard;
IATA – International Air Transport Association.
IBC Code – International Bulk Chemical Code;
IMDG - International Maritime Dangerous Goods Code;
IMO – International Maritime Organisation.
IMSBC – International Maritime Solid Bulk Cargoes Code;
LTEL – long-term exposure limit;
IUCLID – International Uniform Chemical Information Database;
IUPAC – International Union of Pure and Applied Chemistry;
UN - United Nations;
Kow – octanol/water partition coefficient;

AB Achema

Safety Data Sheet



In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH), with all subsequent amendments and supplements, and Commission Regulation (EU) No 2020/878

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

LC50 – Lethal concentration for 50 % of tested population;
LD50 – lethal dose for 50 % of the tested population (average lethal dose);
LOEC – lowest observed effect concentration;
LR – primary registrar;
LT – Lithuanian;
MARPOL – International Convention for the Prevention of Pollution from Ships;
Met. Corr. – May be corrosive to metals.
NOAEL – no observable adverse effect level;
NOAEC – no observed adverse effect concentration;
NOEC – no observed effect concentration;
OJ – Official Journal;
PBT – persistent, bioaccumulative and toxic;
PC – product category;
PEC – predicted environmental concentration;
PNEC(s) – predicted no-effect concentration(s);
PPE – personal protection equipment;
REACH – registration of chemicals;
REACH Regulation – Registration, Evaluation, Authorisation and Restriction of Chemicals (EC) No 1907/2006;
RID – Regulations concerning the International Carriage of Dangerous Goods by Rail.
ELV – limit value in the working environment;
RMP – risk management measures;
SCBA – self-contained breathing apparatus;
SDS – Safety Data Sheet;
SIEF – Substance Information Exchange Forum;
SMGS – Agreement on International Goods Transport by Rail.
STOT – specific target organ toxicity;
(STOT) RE – repeated exposure;
(STOT) SE – single exposure;
SU – sector of use;
SVHC – substance of very high concern;
STEL – Short-term exposure limit;
UN – United Nations;
(Q)SAR – (quantitative) structure-activity relationship;
vPvB – very persistent and very bioaccumulative.

Explanation of Sectors of Use (SU):

SU – mining (including offshore industry);
SU5 – manufacture of textile, leather, fur;
SU6b – manufacture of wood pulp, paper and paper products;
SU8 – large-scale production of chemical products (including petroleum products);
SU9 – manufacture of pure chemicals;
SU10 – preparation or repackaging;
SU14 – production of essential metals;
SU15 – manufacture of products of metal components, excluding machinery and equipment;
SU16 – manufacture of computers, electronic and optical products, electrical equipment;
SU17 – general production, e.g., machinery, equipment, vehicles, other transport equipment;

Base aluminium sulphate solution

Revision date: 28/02/2026
 Version No: 12.0
 Revision No: 0
 Amendment date: 28/02/2026

SU23 – electricity, steam, gas, water supply and sewage treatment.

(iii) References to major literature and data sources:

- 1) Dossier of aluminium sulphate registration under REACH published on the website of the European Chemicals Agency [data taken on 31 May 2018];
- 2) <http://gestis-en.itrust.de/nxt/gateway.dll?f=templates&fn=default.htm&vid=gestiseng:sdbeng> [data taken on 31 May 2018].

(iv) Applicable classification and procedures used to determine the classification of mixtures in accordance with Regulation (EC) No 1272/2008 [CLP Regulation]:

Classification according to Regulation (EC) No 1272/2008	Classification procedure
Serious eye damage, cat. 1, H318,	The product was classified according to the additive theory as data were available on the ingredients but not on the mixture as a whole. The product was classified as serious eye damage, category 1, because its aluminium sulphate content exceeds the general concentration limit for category 1 as laid down in Regulation (EC) No 1272/2008, Annex I, Table 3.3.3, and equals 3 %.
May be corrosive to metals, cat. 1, H290	The product was classified on the basis of the documentation for aluminium sulphate registration under REACH published on ECHA's website, stating that Met. Corr. 1 apply only to the aqueous solution of aluminium sulphate. 1 apply only to the aqueous solution of aluminium sulphate.

(v) Hazard and precautionary statements:

- H290: May be corrosive to metals.
 H318: Causes serious eye damage.
 P234: Keep only in original packaging.
 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.
 P390: Absorb spillage to prevent material damage.
 P406: Store in a corrosion resistant container with a resistant inner liner.

(vi) Training advice: People who handle, use and store this product must be trained to work with hazardous substances, obtain hygiene skills required to work with hazardous substances, know the product properties and its danger, know how to handle it, what personal protective equipment to use, know first aid principles and information on emergency procedures. This safety data sheet must be made available to those working with the product. Individuals must be instructed before working with the product.

NOTE. The data contained in this safety data sheet must be available to all whose work is related to the substance and preparation. The data are consistent with our best knowledge and are intended to describe the chemical product in terms of occupational safety and health and environmental protection. The information contained in the safety data sheet will be supplemented by new data on the health and environmental effects of the preparation of the chemical and on preventive measures, when it is available, to reduce or completely prevent the risks. The information contained in the safety data sheet does not reveal other specific properties of the substance or preparation.

AB Achema
Safety Data Sheet



In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH), with all subsequent amendments and supplements, and Commission Regulation (EU) No 2020/878

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

This version replaces all previous documents.

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

ANNEX

Exposure scenarios for base aluminium sulphate solution:

- 1. Exposure scenario (ES1): production of aqueous solution of aluminium salts; maximum aluminium content: 25 %;**
- 2. Exposure scenario (EU2): production and distribution of aluminium salts (aqueous solutions); maximum aluminium content: 25 %;**
- 3. Exposure scenario (ES3): use of aluminium salts (aqueous solutions) as a chemical preparation in the synthesis process and as an intermediate product; Maximum aluminium content: 25 %;**
- 6. Exposure scenario (ES6): Industrial and professional use of aqueous solutions of aluminium salts (no more than 25 % of aluminium) as a flocculant or coagulant for water and waste water treatment;**
- 7. Exposure scenario (ES7): - use of aluminium salts: an aqueous solution used in industrial and professional laboratory conditions; maximum aluminium content: 25%**

Aqueous solution:

ES1 – production of aqueous solution of aluminium salts; maximum aluminium content: 25 %	
Section 1	Exposure scenario. Name
Name	Production of aqueous solution of aluminium salts; maximum aluminium content: 25 %
Use descriptors	Field of use: industry (SU8, SU9)
	Process categories: PROC1: Use in closed processes without human exposure PROC2: Production in continuous closed processes with occasional controlled human exposure PROC3: Use in closed mixing processes (synthesis or production of solutions) PROC4: Use in mixing and other processes (e.g., synthesis), where there may be human exposure PROC8b: Transfer (loading/unloading) of the substance or mixture from/to ships in a large container with fitted equipment PROC15: Use as laboratory reagent
	Categories of release into the environment: ERC1: Manufacture of chemicals
Processes, activities.	Production of the substance. Includes processing/utilisation, transfer, storage, maintenance and loading (including marine vessels/barges, railways, motor transport and different containers), sampling and related laboratory testing
GES exposure criteria	DNEL, breathing for a long time: 1.8 mg/cm ³
Section 2	Working conditions and risk management measures
Section 2.1	Worker exposure controls
Characteristics of the product	

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

Physical condition of the product	Aqueous solution of aluminium salts: vapour pressure 0.01 Pa or less; liquid vapour pressure < 10 Pa [OC14]
Concentration of the substance in the product	Includes mixtures containing aluminium salts up to 25 % [G12].
Quantities of substance used	Millilitres (when sampled) and cubic metres (when the substance is reloaded or transported) [OC13]
Frequency and duration of use	Includes daily exposure up to 8 hours (unless otherwise indicated) [G2]
Human factors do not affect risk management	<i>Not applicable</i>
Other operating conditions affecting worker exposure	The temperature of the product is not expected to exceed the ambient temperature by 20 °C [G15]. Occupational hygiene requirements must be observed [G1]. Training of workers in the workplace [EI19] must be ensured in order to reduce risks
Additional scenarios	Risk management measures
The substance has corrosive properties at pH below 2 and above 11: Use the appropriate eye protection [PPE26]. Avoid contact with the skin. Wear suitable gloves tested according to EN374 [PPE15]	
PROC1: Common positions (closed systems) [CS15]. Continuous process [CS54]. Process sampling [CS2] (closed systems) [CS107]	No specific measures [EI18]. Recommendations: {Ensure system closure} {Clean transfer lines before unsealing [E39]}.
PROC2: Common positions [CS1]. Continuous process [CS54]. Process sampling [CS2] (closed systems) [CS108]	No specific measures [EI18]. <i>Recommendations:</i> {Ensure system closure} {Clean transfer lines before unsealing [E39]}. {Clean up the spilled product immediately [C & H13]}.
PROC3: Common positions [CS1]. Consumption in processes [CS37]. With sampling [CS56]. Cleaning and maintenance of equipment [CS39].	No specific measures [EI18]. <i>Recommendations:</i> {Ensure system closure} {Drain the system before equipment is unsealed or inspected [E55]} {Clean up the spilled product immediately [C & H13]}.
PROC4: Common positions (open systems) [CS16]. Periodic process [CS55] (open systems) [CS108] Container transfers [CS8]. With sampling [CS56]; cleaning and maintenance of equipment [CS39].	No specific measures [EI18]. Recommendations: {Drain the system before equipment is unsealed or inspected [E55]}; {Clean equipment and workplace daily [C & H3]}. {Clean the spill immediately [C & H13]}.

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

<p>PROC8b: Common positions (open systems) [CS16]. Fitted equipment [CS81] Substance transfers [CS3]. Cleaning and maintenance of equipment [CS39]. Bulk transshipment [CS14].</p>	<p>No specific measures [E118].</p> <p>Recommendations: {Drain the system before equipment is unsealed or inspected [E55]}; {Clean equipment and workplace daily [C & H3]}. {Clean the spill immediately [C & H13]}.</p>
<p>PROC15: Common positions [CS1]. Laboratory work [CS36].</p>	<p>No specific measures [E118].</p> <p>Recommendations: {Drain the system before equipment is unsealed or inspected [E55]}; {Clean equipment and workplace daily [C & H3]}. {Clean the spill immediately [C & H13]}.</p>
<p>Section 2.2</p>	<p>Environmental exposure controls</p>
<p>Aluminium, aluminium powder, aluminium oxide and soluble aluminium compounds are not hazardous to the environment. Aluminium (Al) is widespread on the Earth's surface. Aluminium compounds are released into the environment in small quantities as a result of human activities and are therefore not considered to have harmful effects on the environment.</p>	
<p>Section 3</p>	<p>Calculation of exposure</p>
<p>3.1. Health</p>	
<p>Exposure is unlikely if the conditions set out in Section 8 of the SDS are met and the specified risk management measures are used.</p>	
<p>3.2. Environment</p>	
<p>Not applicable</p>	
<p>Section 4</p>	
<p>4.1. Health</p>	
<p>ECOTOX TRA (V.2.0) was used for the assessment of exposure at workplaces</p>	
<p>4.2. Environment</p>	
<p>Not applicable</p>	
<p>Section 5</p>	<p>Additional good practice advice</p>
<p>*Note: The measures referred to in this section were not intended for the preparation of the exposure scenario.</p>	
<p>Worker control</p>	
<p>Use of personal protective equipment</p>	<p><u>Skin protection:</u> Gloves: Check the resistance of gloves. <u>Respiratory protection:</u> Respirator: - Wear a single-use mask only once. - Clean multiple-use masks after each use. Store in a clean box and a clean place. - Respirator shall be used for ≤ 2 h/day.</p>

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

Production scenario: Production and distribution of solutions

Aqueous solutions:

EU2 – production and distribution of aluminium salts (aqueous solutions); Maximum aluminium content: 25 %	
Section 1	Production scenario name
Name	Production and distribution of aluminium salts (aqueous solutions). Maximum aluminium content: 25 %
Use descriptors	Field of application: Industrial (SU10)
	Process categories: PROC1: Used in closed processes without any human exposure PROC2: Production in continuous closed processes with occasional controlled human exposure PROC3: Use in closed mixing processes (synthesis or production of solutions) PROC4: Use in mixing and other processes (e.g., synthesis), where there may be human exposure PROC5: Mixing in processes, preparations and articles (multi-step and/or significant contact) PROC8a: Transfer of substance or preparation (loading/unloading) from/to ships/large containers using unfitted equipment PROC8b: Transfer of substance or preparation (loading/unloading) from/to ships/large containers using fitted equipment PROC9: Transfer of substance or preparation to small containers (fitted filling line including weighing) PROC14: Granulation of tablets in preparations or articles PROC15: Use as laboratory reagent PROC19: Manual mixing, close contact only with PPE
	Categories of release into the environment: ERC2: Manufacture of preparations
Processes, activities.	Production of liquid and solid preparations of Al salts includes distribution and analysis (aqueous solutions, maximum aluminium content: 25 %). Distribution: loading and reloading.
GES exposure criteria	DNEL, inhalation, prolonged: 1.8 mg/m ³
Section 2	Working conditions and risk management measures
Section 2.1	Worker exposure controls
Description of the product	
Physical condition of the product	Aqueous solution of aluminium salts: vapour pressure 0.01 Pa or less; liquid vapour pressure < 10 Pa [OC14].
Concentration of the substance in the product	Includes products containing up to 25 % of the substance [G12].
Quantities of substance used	Millilitres (when sampled) and cubic metres (when the substance is reloaded or transported) [OC13].

AB Achema
Safety Data Sheet



In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH), with all subsequent amendments and supplements, and Commission Regulation (EU) No 2020/878

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

Frequency and duration	Includes daily exposure up to 8 hours (unless otherwise indicated) [G2].
Human factors do not affect risk management	<i>Not applicable</i>
Other operating conditions affecting worker exposure	The temperature of the product is expected not to exceed the ambient temperature by 20 °C [G15]. Occupational hygiene requirements must be observed [G1]. Training of workers in the workplace [E119] must be ensured in order to reduce risks.
Additional scenarios	Risk management measures
The substance has corrosive properties at pH below 2 and above 11: Use the appropriate eye protection [PPE26]. Avoid contact with the skin. Wear appropriate gloves tested according to EN374 [PPE15].	
PROC1: Common positions (closed systems) [CS15]. Continuous process [CS54]. Process sampling [CS2] (closed systems) [CS107]	No specific measures [E118]. Recommendations: {Ensure system closure} {Clean transfer lines before unsealing [E39]}.
PROC2: Common positions [CS1]. Continuous process [CS54]. Process sampling [CS2] (closed systems) [CS108]	No specific measures. [E118] Recommendations: {Ensure system closure} {Clean transfer lines before unsealing [E39]}. {Clean up the spill immediately [C & H13]}.
PROC3: Common positions [CS1]. In processes [CS37]. With sampling [CS56]. Cleaning and maintenance of equipment [CS39]	No specific measures [E118]. Recommendations: {Ensure system closure} {Drain and wash the system before equipment is unsealed or inspected [E55]} {Clean up the spill immediately [C & H13]}.
PROC4: Common positions (open systems) [CS16]. Periodic process [CS55] (open systems) [CS108]; Product transfers/transshipments [CS8]. With sampling [CS56]; Cleaning and maintenance of equipment [CS39]	No specific measures [E118]. Recommendations: {Drain and wash the system before equipment is unsealed or inspected [E55]}; {Clean equipment and workplace daily [C & H3]}. {Clean the spill immediately [C & H13]}.
PROC5: Common positions (open systems) [CS16]. Mixing operations (open systems) [CS30]. Substance transfers/transshipments [CS3]. Periodic process [CS55]. Cleaning [CS47]	No specific measures [E118]. Recommendations: {Drain and wash the system before equipment is unsealed or inspected [E55]}; {Clean equipment and workplace daily [C & H3]}. {Clean up the spill immediately [C & H13]}.
PROC8a: Common positions (open systems) [CS16]; Unfitted measures [CS82]; Substance transfers/transshipments [CS3]. Cleaning and maintenance of	No specific measures [E118]. Recommendations: {Drain and wash the system before equipment is unsealed or inspected [E55]}; {Clean equipment and workplace daily [C & H3]}. {Clean the spill immediately [C & H13]}.

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

equipment [CS39]. Large transfers/transshipments of substance [CS14].	
PROC8b: Common positions (open systems) [CS16]. Fitted equipment [CS81] Substance transfers/transshipments [CS3]. Cleaning and maintenance of equipment [CS39]. Large transfers/transshipments of substance [CS14]	No specific measures [EI18]. Recommendations: {Drain and wash the system before equipment is unsealed or inspected [E55]}; {Clean equipment and workplace daily [C & H3]}. {Clean the spill immediately [C & H13]}.
PROC9: Common positions [CS1]. Fitted equipment [CS81] Filling small packages [CS6]. Cleaning and maintenance of equipment [CS39]	No specific measures [EI18]. Recommendations: {Drain and wash the system before equipment is unsealed or inspected [E55]}; {Clean equipment and workplace daily [C & H3]}. {Clean the spill immediately [C & H13]}.
PROC14: Common positions (open systems) [CS16] Granulation, tableting [CS100]	No specific measures [EI18]. Recommendations: {Drain and wash the system before equipment is unsealed or inspected [E55]}; {Clean equipment and workplace daily [C & H3]}. {Clean the spill immediately [C & H13]}.
PROC15: Common positions [CS1]. Laboratory analysis [CS36].	No specific measures [EI18]. Recommendations: {Drain and wash the system before equipment is unsealed or inspected [E55]}; {Clean equipment and workplace daily [C & H3]}. {Clean the spill immediately [C & H13]}.
PROC19: Common positions [CS1]. Mixing operations (open systems) [CS30]. Manual [CS34]	Industrial workers: Using solutions and mixtures with aluminium concentrations of 5 % to 25 %: Avoid running operations longer than 1 hour [OC11]. Using solutions and mixtures with aluminium concentrations <5 %: Avoid running operations longer than 4 hours [OC12]. Using solutions and mixtures with aluminium concentrations <1 %: No special measures [EI18]. Professional staff: Using solutions and mixtures with aluminium concentrations of 5 % to 25 %: Wear a respirator conforming to EN140 with a type B/P2 filter [PPE29]. Avoid running operations longer than 15 minutes [OC10]. Using solutions and mixtures with aluminium concentrations <5 %: Avoid running operations longer than 1 hour [OC11]. Using solutions and mixtures with aluminium concentrations <1 %: Avoid running operations longer than 4 hours [OC12]. Recommendations: {Clean equipment and workplace daily [C & H3]}

AB Achema
Safety Data Sheet



In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH), with all subsequent amendments and supplements, and Commission Regulation (EU) No 2020/878

Base aluminium sulphate solution

Revision date: 28/02/2026
 Version No: 12.0
 Revision No: 0
 Amendment date: 28/02/2026

	{Clean up the spill immediately [C & H13]} {Stand upwind/away from the source of exposure [E122]}.
Section 2.2	Environmental exposure controls
Aluminium, aluminium powder, aluminium oxide and soluble aluminium compounds are not hazardous to the environment. Aluminium (Al) is widespread on the Earth's surface. Aluminium compounds are released into the environment in small quantities as a result of human activities and are therefore not considered to have harmful effects on the environment.	
Section 3	Calculation of exposure
3.1. Health	
Exposure is unlikely if the conditions set out in Section 8 of the SDS are met and the specified risk management measures are used.	
3.2. Environment	
Not applicable	
Section 4	
4.1. Health	
ECOTOX TRA (V.2.0) was used for the assessment of exposure at workplaces	
4.2. Environment	
Not applicable	
Section 5	Additional good practice advice
*Note: The measures referred to in this section were not intended for the preparation of the exposure scenario.	
Worker exposure controls	
Use of personal protective equipment	<u>Skin protection:</u> Gloves: Check the resistance of gloves. <u>Respiratory protection:</u> Respirator: - Wear a single-use mask only once. - Clean multiple-use masks after each use. Store in a clean box and a clean place. - Respirator shall be used for ≤ 2 h/day.

Base aluminium sulphate solution

Revision date: 28/02/2026
 Version No: 12.0
 Revision No: 0
 Amendment date: 28/02/2026

Exposure scenario 3: Use of aluminium salts (aqueous solutions) as a chemical preparation of the synthesis process and as an intermediate product; Maximum aluminium content: 25 %;

Aqueous solution:

ES3 – use of aluminium salts (aqueous solutions) as a chemical preparation in the synthesis process and as an intermediate product; Maximum aluminium content: 25 %

Section 1		Exposure scenario. Name
Name	Use of aluminium salts (aqueous solutions) as a chemical preparation in the synthesis process and as an intermediate product; Maximum aluminium content: 25 %;	
Use descriptors	Field of application: SU6b, SU8, SU9, SU14	
	Process categories: PROC1: Use in closed processes without any human exposure PROC2: Production in continuous closed processes with occasional controlled human exposure PROC3: Use in closed mixing processes (synthesis or production of solutions) PROC4: Use in mixing and other processes (e.g., synthesis), where there may be human exposure PROC8a: Transfer of substance or preparation (loading/unloading) from/to ships/large containers using unfitted equipment PROC8b: Transfer of substance or preparation (loading/unloading) from/to ships/large containers using fitted equipment PROC9: Transfer of substance or preparation to small containers (fitted filling line including weighing) PROC15: Use as laboratory reagent	
	Environmental categories: ERC1: Manufacture of chemicals ERC2: Manufacture of preparations ERC4: Industrial use ERC5: Industrial use in or on a matrix ERC6a: Industrial use in the manufacture of another chemical ERC8a: Use as a reaction agent in open systems	
Processes, activities.	Use of aluminium salts (aqueous solutions) as a chemical preparation of the synthesis process and as an intermediate product. Includes substance reload and related laboratory tests. Maximum aluminium content: 25 %	
GES exposure criteria	DNEL, inhalation, prolonged: 1.8 mg/m ³	
Section 2		Working conditions and risk management measures
Section 2.1		Worker exposure controls
Description of the product		
Physical condition of the product	Aqueous solution of aluminium salts: vapour pressure 0.01 Pa or less; liquid vapour pressure < 10 Pa [OC14]	
Concentration of the substance in the product	Includes products with a substance concentration not exceeding 25 % [G12].	

AB Achema
Safety Data Sheet



In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH), with all subsequent amendments and supplements, and Commission Regulation (EU) No 2020/878

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

Quantities of substance used	Millilitres (when sampled) and cubic metres (when the substance is reloaded or transported) [OC13]
Frequency and duration	Includes daily exposure up to 8 hours (unless otherwise indicated) [G2]
Human factors do not affect risk management	<i>Not applicable</i>
Other operating conditions affecting worker exposure	The temperature of the product is expected not to exceed the ambient temperature by 20 °C [G15]. Occupational hygiene requirements must be observed [G1]. Training of workers in the workplace [E119] must be ensured in order to reduce risks.
Additional scenarios	Risk management measures
The substance has corrosive properties at pH below 2 and above 11: Use the appropriate eye protection [PPE26]. Avoid contact with the skin. Wear appropriate gloves tested according to EN374 [PPE15].	
PROC1: Common positions (closed systems) [CS15]. Continuous process [CS54]. Process sampling [CS2] (closed systems) [CS107]	No specific measures [E118]. Recommendations: {Ensure system closure} {Clean transfer lines before unsealing [E39]}.
PROC2: Common positions [CS1]. Continuous process [CS54]. Process sampling [CS2] (closed systems) [CS108]	No specific measures. [E118] Recommendations. {Ensure system closure} {Clean transfer lines before unsealing [E39]}. {Clean up the spill immediately [C & H13]}.
PROC3: Common positions [CS1]. Consumption in batch processes [CS37]. With sampling [CS56]. Cleaning and maintenance of equipment [CS39]	No specific measures [E118]. Recommendations: {Ensure system closure} {Drain and wash the system before equipment is unsealed or inspected [E55]} {Clean up the spill immediately [C & H13]}.
PROC4: Common positions (open systems) [CS16]. Periodic process [CS55] (open systems) [CS108] Container transfers [CS8]. Sampling [CS56]; cleaning and maintenance of equipment [CS39]	No specific measures [E118]. Recommendations: {Ensure system closure} {Drain and wash the system before equipment is unsealed or inspected [E55]} {Clean up the spill immediately [C & H13]}.
PROC8a: Common positions (open systems) [CS16]; Unfitted measures [CS82]; Substance transfers/transshipments [CS3]. Cleaning and maintenance of equipment [CS39]. Large transfers/transshipments of substance [CS14].	No specific measures [E118]. Recommendations: {Drain and wash the system before equipment is unsealed or inspected [E55]}; {Clean equipment and workplace daily [C & H3]}. {Clean the spill immediately [C & H13]}.

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

<p>PROC8b: Common positions (open systems) [CS16]. Fitted equipment [CS81] Substance transfers/transshipments [CS3]. Cleaning and maintenance of equipment [CS39]. Large transfers/transshipments of substance [CS14].</p>	<p>No specific measures [E118]. Recommendations: {Drain and wash the system before equipment is unsealed or inspected [E55]}; {Clean equipment and workplace daily [C & H3]}. {Clean up the spill immediately [C & H13]}.</p>
<p>PROC9: Common positions [CS1]. Fitted equipment [CS81] Filling small packages [CS6]. Cleaning and maintenance of equipment [CS39].</p>	<p>No specific measures [E118]. Recommendations: {Drain and wash the system before equipment is unsealed or inspected [E55]}; {Clean equipment and workplace daily [C & H3]}. {Clean up the spill immediately [C & H13]}.</p>
<p>PROC15: Common positions [CS1]. Laboratory analysis [CS36].</p>	<p>No specific measures [E118]. Recommendations: {Drain and wash the system before equipment is unsealed or inspected [E55]}; {Clean equipment and workplace daily [C & H3]}. {Clean up the spill immediately [C & H13]}.</p>
<p>Section 2.2</p>	<p>Environmental exposure controls</p>
<p>Aluminium, aluminium powder, aluminium oxide and soluble aluminium compounds are not hazardous to the environment. Aluminium (Al) is widespread on the Earth's surface. Aluminium compounds are released into the environment in small quantities as a result of human activities and are therefore not considered to have harmful effects on the environment.</p>	
<p>Section 3</p>	<p>Calculation of exposure</p>
<p>3.1. Health</p>	
<p>Exposure is unlikely if the conditions set out in Section 8 of the SDS are met and the specified risk management measures are used.</p>	
<p>3.2. Environment</p>	
<p>Not applicable</p>	
<p>Section 4</p>	
<p>4.1. Health</p>	
<p>ECOTOX TRA (V.2.0) was used for the assessment of exposure at workplaces</p>	
<p>4.2. Environment</p>	
<p>Not applicable</p>	
<p>Section 5</p>	<p>Additional good practice advice</p>
<p>*Note: The measures referred to in this section were not intended for the preparation of the exposure scenario.</p>	
<p>Worker exposure controls</p>	
<p>Use of personal protective equipment</p>	<p><u>Skin protection:</u> Gloves: Check the resistance of gloves. <u>Respiratory protection:</u> Respirator: - Wear a single-use mask only once. - Clean multiple-use masks after each use. Store in a clean box and a clean place. - Respirator shall be used for ≤ 2 h/day.</p>

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

Exposure scenario 6: Use as a flocculant or coagulant in water and waste water treatment

Aqueous solution:

ES6 – Industrial and professional use of aqueous solutions of aluminium salts (no more than 25 % of aluminium) as a flocculant or coagulant for water and waste water treatment

Section 1		Name of the exposure scenario
Name	Industrial and professional use of aqueous solutions of aluminium salts as a flocculant or coagulant for water and sewage treatment; Maximum aluminium content: 25 %.	
Use descriptors	Field of application: Industrial (SU2, SU5, SU6b, SU10, SU23)	
	Process categories: PROC2: Production in continuous closed processes with occasional controlled human exposure PROC3: Use in closed mixing processes (synthesis or production of solutions) PROC4: Use in mixing and other processes (e.g., synthesis), where there may be human exposure PROC5: Mixing in processes, preparations and articles (multi-step and/or significant contact) PROC8a: Transfer of substance or preparation (loading/unloading) from/to ships/large containers using unfitted equipment PROC8b: Transfer of substance or preparation (loading/unloading) from/to ships/large containers using fitted equipment PROC9: Transfer of substance or preparation to small containers (fitted filling line including weighing) PROC19: Manual mixing, close contact only with PPE	
	Environmental categories: ERC2: Manufacture of preparations ERC4: Industrial use ERC6b: Industrial use of reactionary processing aids ERC8a: Use as a reaction agent in open systems ERC8b: Internal dispersion of reactionary chemicals in open systems ERC8d: External dispersive use of processing aids in open systems	
Processes, activities.	Industrial and professional treatment of water and sewage using aluminium salts as a flocculant or coagulant; maximum aluminium content: 25 %. Includes cleaning and maintenance of equipment.	
Exposure criteria	DNEL, inhalation, prolonged: 1.8 mg/cm ³	
Section 2		Working conditions and risk management measures
Section 2.1		Worker exposure controls
Description of the product		
Physical condition of the product	Aqueous solution of aluminium salts: vapour pressure 0.01 Pa or less; liquid vapour pressure < 10 Pa [OC14]	
Concentration of the substance in the product	Includes products with a substance concentration not exceeding 25 % [G12].	

AB Achema
Safety Data Sheet



In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH), with all subsequent amendments and supplements, and Commission Regulation (EU) No 2020/878

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

Quantities of substance used	Millilitres (when sampled) and cubic metres (when the substance is reloaded or transported) [OC13]
Frequency and duration	Includes daily exposure up to 8 hours (unless otherwise indicated) [G2]
Human factors do not affect risk management	<i>Not applicable</i>
Other operating conditions affecting worker exposure	The temperature of the product is expected not to exceed the ambient temperature by 20 °C [G15]. Occupational hygiene requirements must be observed [G1]. Training of workers in the workplace [E119] must be ensured in order to reduce risks.
Additional scenarios	Risk management measures
The substance has corrosive properties at pH below 2 and above 11: Use the appropriate eye protection [PPE26]. Avoid contact with the skin. Wear appropriate gloves tested according to EN374 [PPE15].	
PROC2: Common positions [CS1]. Continuous process [CS54]. Process sampling [CS2] (closed systems) [CS108]	No specific measures. [E118] Recommendations. {Ensure system closure} {Clean transfer lines before unsealing [E39]}. {Clean up the spill immediately [C & H13]}.
PROC3: Common positions [CS1]. Consumption in processes [CS37]. With sampling [CS56]. Cleaning and maintenance of equipment [CS39]	No specific measures [E118]. Recommendations: {Ensure system closure} {Drain and wash the system before equipment is unsealed or inspected [E55]} {Clean up the spill immediately [C & H13]}.
PROC4: Common positions (open systems) [CS16]. Periodic process [CS55] (open systems) [CS108] Container transfers [CS8]. Sampling [CS56]; cleaning and maintenance of equipment [CS39]	No specific measures [E118]. Recommendations: {Drain and wash the system before equipment is unsealed or during its inspections [E55]} {Clean the spill immediately [C & H13]}.
PROC5: Common positions (open systems) [CS16]. Mixing operations (open systems) [CS30]. Substance transfers/transshipments [CS3]. Periodic process [CS55]. Cleaning [CS47]	No specific measures [E118]. Recommendations: {Drain and wash the system before equipment is unsealed or during its inspections [E55]}; {Clean equipment and workplace daily [C & H3]}. {Clean up the spill immediately [C & H13]}.
PROC8a: Common positions (open systems) [CS16]; Unfitted measures [CS82]; Substance transfers/transshipments [CS3]. Cleaning and maintenance of equipment [CS39]. Large transfers/transshipments of	No specific measures [E118]. Recommendations: {Drain and wash the system before equipment is unsealed or during its inspections [E55]}; {Clean equipment and workplace daily [C & H3]}. {Clean up the spill immediately [C & H13]}.

Base aluminium sulphate solution

Revision date: 28/02/2026
Version No: 12.0
Revision No: 0
Amendment date: 28/02/2026

substance [CS14]	
<p>PROC8b: Common positions (open systems) [CS16]. Fitted equipment [CS81] Substance transfers/transshipments [CS3]. Cleaning and maintenance of equipment [CS39]. Large transfers/transshipments of substance [CS14].</p>	<p>No specific measures [EI18].</p> <p>Recommendations: {Drain and wash the system before equipment is unsealed or during its inspections [E55]}; {Clean equipment and workplace daily [C & H3]}. {Clean the spill immediately [C & H13]}.</p>
<p>PROC9: Common positions [CS1]. Fitted equipment [CS81] Filling small packages [CS6]. Cleaning and maintenance of equipment [CS39].</p>	<p>No specific measures [EI18].</p> <p>Recommendations: {Drain and wash the system before equipment is unsealed or during its inspections [E55]}; {Clean equipment and workplace daily [C & H3]}. {Clean the spill immediately [C & H13]}.</p>
<p>PROC19: Common positions [CS1]. Mixing operations (open systems) [CS30]. Manual [CS34].</p>	<p>Industrial workers: Using solutions and mixtures with aluminium concentrations of 5 % to 25 %: Avoid running operations longer than 1 hour [OC11]. Using solutions and mixtures with aluminium concentrations <5 %: Avoid running operations longer than 4 hours [OC12]. Using solutions and mixtures with aluminium concentrations <1 %: No special measures [EI18].</p> <p>Professional staff: Using solutions and mixtures with aluminium concentrations of 5 % to 25 %: Wear a respirator conforming to EN140 with a type B/P2 filter [PPE29]. Avoid running operations longer than 15 minutes [OC10]. Using solutions and mixtures with aluminium concentrations <5 %: Avoid running operations longer than 1 hour [OC11]. Using solutions and mixtures with aluminium concentrations <1 %: Avoid running operations longer than 4 hours [OC12].</p> <p>Recommendations: {Clean equipment and workplace daily [C & H3]} {Clean the spill immediately [C & H13]} {Stand upwind/away from the source of exposure [EI22]}.</p>
<p>Section 2.2</p>	<p>Environmental exposure controls</p>
<p>Aluminium, aluminium powder, aluminium oxide and soluble aluminium compounds are not hazardous to the environment. Aluminium (Al) is widespread on the Earth's surface. Aluminium compounds are released into the environment in small quantities as a result of human activities and are therefore not considered to have harmful effects on the environment.</p>	
<p>Section 3</p>	<p>Calculation of exposure</p>
<p>3.1. Health</p>	
<p>Exposure is unlikely if the conditions set out in Section 8 of the SDS are met and the specified risk management measures are used.</p>	

AB Achema
Safety Data Sheet



In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH), with all subsequent amendments and supplements, and Commission Regulation (EU) No 2020/878

Base aluminium sulphate solution

Revision date: 28/02/2026
 Version No: 12.0
 Revision No: 0
 Amendment date: 28/02/2026

3.2. Environment	
Not applicable	
Section 4	
4.1. Health	
ECOTOX TRA (V.2.0) was used for the assessment of exposure at workplaces	
4.2. Environment	
Not applicable	
Section 5	Additional good practice advice
*Note: The measures referred to in this section were not intended for the preparation of the exposure scenario.	
Worker exposure controls	
Use of personal protective equipment	<u>Skin protection:</u> Gloves: Check the resistance of gloves <u>Respiratory protection:</u> Respirator: - Wear a single-use mask only once. - Clean multiple-use masks after each use. Store in a clean box and a clean place. - Respirator shall be used for ≤ 2 h/day.

AB Achema
Safety Data Sheet



In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH), with all subsequent amendments and supplements, and Commission Regulation (EU) No 2020/878

Base aluminium sulphate solution

Revision date: 28/02/2026
 Version No: 12.0
 Revision No: 0
 Amendment date: 28/02/2026

Exposure scenario 7: Laboratory use

Aqueous solution:

ES7 – use of aluminium salts; aqueous solution: in industrial and professional laboratory conditions; Maximum aluminium content: 25 %

Section 1	Name of the exposure scenario
Name	Use of aluminium salts; aqueous solution: in industrial and professional laboratory conditions; Maximum aluminium content: 25 %
Use descriptors	Field of application: SU9
	Process categories: PROC15: Use as laboratory reagent
	Environmental categories: ERC4. Industrial use as a reaction agent
Processes, activities.	Using aluminium salts (aqueous solution) in low-volume laboratory conditions. Maximum aluminium content: 25 %
Exposure criteria	DNEL, inhalation, prolonged: 1.8 mg/cm ³
Section 2	Working conditions and risk management measures
Section 2.1	Worker exposure controls
Description of the product	
Physical condition of the product	Aqueous solution of aluminium salts: vapour pressure 0.01 Pa or less; liquid vapour pressure < 10 Pa [OC14]
Concentration of the substance in the product	Includes mixtures containing no more than 25 % of aluminium salts [G12].
Quantities of substance used	Millilitres (when sampled) and cubic metres (when the substance is reloaded or transported) [OC13]
Frequency and duration	Includes daily exposure up to 8 hours (unless otherwise indicated) [G2]
Human factors do not affect risk management	<i>Not applicable</i>
Other operating conditions affecting worker exposure	The temperature of the product is expected not to exceed the ambient temperature by 20 °C [G15]. Occupational hygiene requirements must be observed [G1]. Training of workers in the workplace [EI19] must be ensured in order to reduce risks
Additional scenarios	Risk management measures
The substance has corrosive properties at pH below 2 and above 11: Use the appropriate eye protection [PPE26]. Avoid contact with the skin. Wear appropriate gloves tested according to EN374 [PPE15].	
PROC15: Common positions [CS1]. Laboratory analysis [CS36].	No specific measures [EI18]. Recommendations: {Drain and wash the system before equipment is unsealed or during its inspections [E55]}; {Clean equipment and workplace daily [C & H3]}. {Clean the spill immediately [C & H13]}.
Section 2.2	Environmental exposure controls
Aluminium, aluminium powder, aluminium oxide and soluble aluminium compounds are not hazardous to the environment. Aluminium (Al) is widespread on the Earth's surface. Aluminium compounds are released into the environment in small quantities as a result of human activities and are therefore not considered to have harmful	

AB Achema
Safety Data Sheet



In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH), with all subsequent amendments and supplements, and Commission Regulation (EU) No 2020/878

Base aluminium sulphate solution

Revision date: 28/02/2026
 Version No: 12.0
 Revision No: 0
 Amendment date: 28/02/2026

effects on the environment.	
Section 3	Calculation of exposure
3.1. Health	
Exposure is unlikely if the conditions set out in Section 8 of the SDS are met and the specified risk management measures are used.	
3.2. Environment	
Not applicable	
Section 4	
4.1. Health	
ECOTOC TRA (V.2.0) was used for the assessment of exposure at workplaces	
4.2. Environment	
Not applicable	
Section 5	Additional good practice advice
*Note: The measures referred to in this section were not intended for the preparation of the exposure scenario.	
Worker exposure controls	
Use of personal protective equipment	<u>Skin protection:</u> Gloves: Check the resistance of gloves <u>Respiratory protection:</u> Respirator: - Wear a single-use mask only once. - Clean multiple-use masks after each use. Store in a clean box and a clean place. - Respirator shall be used for ≤ 2 h/day.

The end of the Safety Data Sheet.