

AluPAC

Safety Data Sheet Regulation (EC) No 1907/2006 (REACH) and (EC) No 2015/830

1. Identification of the substance/mixture and of the company/undertaking:

1.1 Product identifier: Polyaluminium Chloride, $\text{Al}(\text{OH})_{1,2}\text{Cl}_{1,8}$
CAS No. 1327-41-9
EC No. 215-477-2
Registration number (REACH) 01-2119531563-43-0044

1.2 Relevant identified use of the substance or mixture and use advised against:
Use: Flocculation/coagulation (e.g. drinking and waste water treatment).
Use advised against: None.

1.3 Details of the supplier of the safety data sheet:
Alumichem A/S
Stejlhoej 16, DK-4400 Kalundborg, Denmark
Tel. +45 59 55 07 00
E-mail: tko@alumichem.com
Contact: Mrs Klarskov

1.4 Emergency telephone number:
+45 59 55 07 00 (only available during office hours)

2. Hazards identification:

2.1 Classification of the substance or mixture:
Directive 67/548/EEC: Xi; R36/38
Regulation (EC) No 1272/2008:
Serious eye damage, Cat. 1, Cause serious eye damage
Corrosive to metals, Cat. 1, May be corrosive to metals

The most important adverse physicochemical, human health and environmental effects:

Potential health effects: Exposure may cause burns.

Potential environmental effects: Large concentrations lower the pH value in water environments.

2.2. Label elements: Signal word: Danger
Hazard pictogram: GHS05



Hazard statements:
H318: Causes serious eye damage.
H290: May be corrosive to metals.

Precautionary statements:

P261: Avoid breathing dust/fume/gas/mist/vapours/spray.

P264: Wash hands thoroughly after handling.

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 or doctor

P406: Store in corrosive resistant container with a resistant inner liner.

- 2.3. Other hazards: The substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of the regulation.
There are no other hazards than the ones listed above.

3. **Composition/information on ingredients:**

- 3.1. Substances: 24-48 w/w % polyaluminium chloride, $\text{Al}(\text{OH})_{1,2}\text{Cl}_{1,8}$
52-76 w/w % water (H_2O)

4. **First aid measures:**

- 4.1. Description of first aid measures:

Eye contact: Rinse immediately with water (10-15 minutes). Get medical assistance.

Skin contact: Remove polluted clothing and wash thoroughly with soap and water.

Inhalation: Place victims in fresh air, rinse nose and mouth with water. Get medical assistance.

Ingestion: Rinse the mouth with water and drink plenty of water. Avoid vomiting. Get medical assistance immediately.

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

Acute: Pain because of burning.

Delayed: The burning will continue, if you do not rinse long enough with water.

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

Look at section 4.1.

5. **Fire-fighting measures:**

- 5.1. Extinguishing media: The product is not inflammable.

- 5.2. Special hazards arising from the substance or mixture:

When being heated the product may develop HCl fumes.

5.3 Advice for fire-fighters: A respirator is to be used during indoor fire.

6. **Accidental release measures:**

6.1. Personal precautions, protective equipment and emergency procedures:

Avoid skin contact with the product (see section 8).

6.2. Environmental precautions:

Avoid spillage to drain, surface water, ground water and soil.

6.3. Methods and material for containment and cleaning up:

Contain a spill – e.g. by covering of drains. After spillage /leakage absorb with granulate, soil or sand and dilute and wash down with water. After drain spill or drain leak dilute with plenty of water and report to local authorities. After spillage on ground and/or in streams, report to local authorities.

6.4. Reference to other sections:

Refer to section 8 for personal protection and section 13 for disposal of granulate used for absorption.

7. **Handling and storage:**

7.1 Precautions for safe handling:

Avoid direct contact with the substance (see section 8).

Avoid spillage, splashes and aerosols.

Wash hands after handling the substance and before eating/drinking.

7.2. Conditions for safe storage, including any incompatibilities:

The product must be stored in containers/tanks made of plastic (PVC, PE, PP), glass fibre reinforced polyester or epoxy coated concrete.

Do not store in containers made of aluminium, iron or electroplated materials.

7.3. Specific end use:

Flocculation/coagulation (e.g. drinking and waste water treatment).

8. **Exposure controls / Personal protection:**

8.1 Control parameters: Threshold limiting value: Aluminium, dissolved salts, measured as

Al: 1 mg/m³.

Hydrogen chloride: 7 mg/m³ (peak value).

Carry out exposure control measures to observe limiting value.

DNEL: No data available

PNEC: Aqua (freshwater) = no data available

Aqua (marine water) = no data available

Aqua (intermittent releases) = no data available

Sediment = no data available

8.2. Exposure controls: No data available.

Appropriate engineering controls:

Occupational exposure measurements.

Individual protection measures, such as personal protective equipment:

Avoid direct contact with the substance.

Eye/face protection: Protect eyes with approved goggles or face shield. Access to eye wash stations and, if relevant, an emergency shower is required.

Skin protection: Protect skin with chemical resistant protective gloves, clothes with long sleeves and long legs, protective shoes and if necessary an apron.

Respiratory protection: When handling generated steam/aerosols, sufficient ventilation is required. If sufficient ventilation is not obtainable, approved respirator with filter type E-[P2] is required.

Thermal hazards: When being heated the product may develop HCl fumes. A respirator is to be used during indoor fire.

Environmental exposure controls:

Avoid all outlets into drainage system / ground – e.g. by establishing a drip plate or basin.

9. *Physical and chemical properties:*

9.1. Information on basic physical and chemical properties:

Appearance:	Yellowish liquid	pH:	c. 1
Odour:	Faint of hydrogen chloride	Boiling point:	> 110 °C
Density:	c. 1.3 kg/l (20 °C)	Melting point:	< -20 °C
Solubility:	Soluble in water	Viscosity:	10-55 cP v. 20 °C
Flash point:	Not applicable	Vapour pressure:	Not applicable
Auto-ignition temperature:	None	Explosive properties:	None
Oxidising properties:	None		

9.2. Other information: None

10. *Stability and reactivity:*

10.1. Reactivity: The substance reacts with bases and forms heat.

10.2. Chemical stability: 1 year under normal conditions.

10.3. Possibility of hazardous reactions: Refer to section 10.1 and 10.5.

10.4. Conditions to avoid: When being heated the product may develop HCl fumes.

10.5. Incompatible materials: Reaction with metals may develop hydrogen, which is explosive.

10.6. Hazardous decomposition products: The substance is inorganic. It reacts with water and forms Al(OH)₃ and Na⁺. Neither are hazardous.

11. *Toxicological information:*

11.1. Information on toxicological effects:

(a) acute toxicity: Oral: No data available

Inhalation: No data available

(b) skin corrosion/irritation: Corrosion

(c) serious eye damage/irritation: Serious eye damages

(d) respiratory or skin sensitisation: No data available

- (e) germ cell mutagenicity: No data available
- (f) carcinogenicity: No data available
- (g) reproductive toxicity: No data available (to see an effect intake must be higher than 100 mg Al/kg bw/day, which is unlikely because of the acidity of the product).
- (h) STOT-single exposure: No data available
- (i) STOT-repeated exposure: No data available
- (j) aspiration hazard: No data available

Information on likely routes of exposure:

- Ingestion: Corrosive and irritating to mucous membranes in mouth and throat.
- Inhalation: Aerosols causes corrosion and irritation to respiratory passages.
- Skin/eye exposure: Corrosive and irritating to skin/eye including redness, pain and risk of ulceration

Symptoms related to the physical, chemical and toxicological characteristics:
Corrosion and irritation.

Delayed and immediate effects as well as chronic effects from short and long-term exposure:
After exposure to the skin, some time may pass before the irritation is felt. Damage to sight and gullet may be permanent.

Interactive effects: No data available.

12. **Ecological information:**

12.1 Toxicity: No data available.

12.2 Persistence and degradability: The substance is inorganic. By reaction with water insoluble $\text{Al}(\text{OH})_3$ and Cl^- is formed. In wastewater treatment plants the substance precipitates as $\text{Al}(\text{OH})_3$ or AlPO_4 .

12.3 Bioaccumulative potential: No data available. On behalf of known data about aluminium it has been estimated that the bio-accumulative potential in water environments at neutral pH is low (estimated steady state bio-concentration factor (BCFs) for Al is 215 at pH 5.3, 123 at pH 6.1 and 36 at pH 7.2). The bio-accumulative potential for Al in soil is also expected to be low.

12.4 Mobility in soil: The substance is not stable in nature. By reaction with water insoluble $\text{Al}(\text{OH})_3$ and Cl^- is formed.

12.5 Results of PBT and vPvB assessment: The substance is not included.

12.6 Other adverse effects: Product may lower the pH value in water environments and is harmful in large concentrations.

13. Disposal considerations:

The product is to be disposed of according to regulations on chemical disposal, and therefore it must not be led into the sewer. The product may be returned to the manufacturer if a previous arrangement has been made. Packing (cans and tanks) is to be recycled or incinerated.

14. Transport information:

The substance must be transported according to regulations for dangerous goods.

- 14.1 UN number: 3264
14.2 Proper shipping name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S
(polyaluminium chloride)
14.3 Transport hazard class(es):
ADR/RID: Class 8
IMDG: Class 8
IATA: Class 8
14.4 Packing group: III
14.5 Environmental hazards: Require no labelling
14.6 Special precautions for user: No
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:
Not relevant

15. Regulatory information:

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture: Persons below 18 years are not allowed to work with the product.
15.2 Chemical safety assessment: No data available.

16. Other information:

- Changes from version 3 to 4:
Update according to (EC) No 2015/830 (no changes).
R-phrase: R 36/38 Irritating to eyes and skin (all hazard statements and precautionary statements have been stated in full in section 2).
Advice/training: Employees are to be instructed thoroughly before handling the product.