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MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/ MIXTURE

Product Identifier

Commercial product name : Polyaluminium chloride, Poly aluminium chloride, PAC

Use of substance / preparation :

Water treatment agent for : drinking water, industrial water/waste water

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization

high-effect inorganic polymer flocculant

Chemical Name	HS	CAS NO.	Proportion
Polyaluminium chloride	3824.90.99.90	1327-41-9	90%
Calcium		7440-70-2	4%
Magnesium		7439-95-4	4%
Water		7732-18-5	2%

3. HAZARDS IDENTIFICATION

Health effects

Skin May cause slight irritation

Eyes May cause slight irritation

Ingestion Low toxicity product

Physical/chemical properties Corrosive, but not classified as hazardous

4. FIRST AID MEASURES

Skin contact	Wash contaminated area with clean water. Contaminated clothing should be washed before re-use.
Eye contact	Irrigate the eye with plenty of clean water. If there is any irritation obtain medical attention immediately.

5. FIRE-FIGHTING MEASURES

Extinguishing media	Foam, dry powder, carbon dioxide and Sand
Special protective equipment For firefighters	As for all fires involving chemicals: chemical protection suit, suitable gloves and boots, and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Use personal protective equipment/effective dust mask.
Methods for cleaning up	Residues or small spillages shall be rubbed by cloth and wash it with clean water.

7. HANDLING AND STORAGE

Handling precautions	Wear PVC or other plastic material gloves/rubber gloves for hand protection and wear goggles for eye protection. Do not eat, drink whilst handling the product. Remove contaminated clothing immediately and wash hands after use.
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Package:	Solid PAC is packed in inner plastic bags and furtherly in polypropylene woven bags, with each bag containing 25kg. Liquid PAC is packed in PE plastic drum and our company will provides special tanks for transportation and storage for the liquid product to the users.
Storage conditions	Avoid wet, damp and humid conditions. Keep in a dry, cool place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures to reduce exposure : Ensure adequate ventilation. Use local exhaust if misting occurs.

Natural ventilation is adequate in absence of mists.

HTP (8h) = 2 mg/M3 (Al) Finland

TVL = 2 mg/M3 (Al) (TWA) USA

MAK = 6 mg/M3 (Al) Germany

Personal protection equipment

- Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment.
- Hand protection : PVC or other plastic material gloves.
- Eye protection : Safety glasses with side-shields. Do not wear contact lenses.
- Skin and body protection : Chemical resistant apron or protective suits if splashing or repeated contact with solution is likely.

Hygiene measures : Wash hand and face before breaks and immediately after handling the product. When using do not eat drink or smoke. Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form :	White powder
pH :	3.5-5.0
Boiling point :	above 100 °C
Water solubility :	1.0% max.

10. STABILITY AND REACTIVITY

Stability	Stable at ambient temperatures
Materials to avoid	Acid, strong alkali
Hazardous decomposition	No decomposition if stored and applied as directed.

11. TOXICOLOGICAL INFORMATION

Acute toxicity :

- Oral : The product is not expected to be toxic.
- Inhalation : The product is not expected to be toxic.

Irritation :

- Skin : Prolonged skin contact may cause skin irritation.
- Eyes : May cause eye irritation with susceptible persons.

Sensitization : No data available.

12. ECOLOGICAL INFORMATION

Ecotoxicity	LC50/96h/algae=1.5-2mg/l (Al-Cl) Toxicity to bacteria=12mg/l (Al-Cl) LC50/48h/daphnia=3.9mg/l (Al-Cl)
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13. DISPOSAL CONSIDERATIONS

Waste from residues/unused:	Dispose of as special waste in compliance with local and national regulations.
Contaminated packaging:	Dispose of as special waste in compliances with local and national regulations.

14. TRANSPORTATION INFORMATION

Road, rail and ship: Not classified as dangerous in the meaning of transport regulations

Not a hazardous material for transportation,

Dot regulations:

Hazard class: None

Land transport ADR/RID (cross-border)

ADR/RID class: None

Maritime transport IMDG:

IMDG Class: None

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: None

Transport/Additional information:

Not dangerous according to the above specifications.

15. REGULATORY INFORMATION

The product is not a hazardous article and need not to be labeled according to EC-Directives as amended.

16. OTHER INFORMATION

Notes: The information contained in this safety data sheet is given in good faith. It is accurate to the best of our knowledge and belief and represents the most up to date information. The information given in this data sheet does not constitute or replace the user' s own assessment of workplace risk as required by other health and safety legislation.