SAFETY DATA SHEET

POLY ALUMINIUM CHLORIDE POWDER (AC100S) — VIKRAM (GRASIM)

CAS No.: 1327-41-9

This Safety Data Sheet is issued by Suraj Chemicals as the distributor/supplier of record, based on manufacturer and published GHS / regulatory reference data for this substance. Users should also consult the specific manufacturer's SDS where available.

1. IDENTIFICATION

GHS Product identifier

POLY ALUMINIUM CHLORIDE POWDER (AC100S) — VIKRAM (GRASIM)
PAC Powder; High-basicity poly aluminium chloride – AC100S grade
CAS: 1327-41-9

Other means of identification

Not relevant

Recommended use of the chemical and restrictions on use

Relevant uses: High-efficiency primary coagulant for potable water treatment, industrial and municipal wastewater treatment, sludge dewatering. For industrial user only.

Uses advised against: All uses not specified in this section or in section 7.3.

Supplier's details

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS:
Classification of this product has been carried out in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Skin Irrit. 2	Skin irritation, Category 2, H315
Eye Dam. 1	Serious eye damage, Category 1, H318
STOT SE 3	Respiratory tract irritation, single exposure, Category 3, H335

GHS label elements, including precautionary statements

GHS: Warning

Hazard statements

Skin Irrit. 2: H315 – Causes skin irritation.
Eye Dam. 1: H318 – Causes serious eye damage.
STOT SE 3: H335 – May cause respiratory irritation.

Precautionary statements

P261: Avoid breathing dust.
P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/eye protection/face protection.
P302+P352: IF ON SKIN: Wash with plenty of water.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313: If skin irritation occurs, get medical advice/attention.
P501: Dispose of contents/container in accordance with local regulations.

Other hazards which do not result in classification

Hygroscopic powder – may absorb moisture and cake on prolonged exposure to humid air. Dust may be irritating.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances

Chemical description: Poly aluminium chloride (basic aluminium chloride polymer), powder – AC100S high-basicity grade

In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: 1327-41-9	Poly aluminium chloride — Skin Irrit. 2: H315; Eye Dam. 1: H318; STOT SE 3: H335 – Warning	approx. 28–30% Al_2O_3 (powder grade; exact assay available on request)

To obtain more information on the hazards of the substances, consult sections 11, 12 and 16.

Mixtures

Non-applicable

4. FIRST AID MEASURES

Description of necessary first-aid measures

Request medical assistance immediately, showing the SDS of this product.

By inhalation
Remove person to fresh air. Seek medical attention if respiratory symptoms occur or persist.

By skin contact
Remove contaminated clothing. Wash affected skin with plenty of water. Seek medical attention if irritation persists.

By eye contact
Rinse eyes immediately with plenty of water for at least 15 minutes, holding eyelids open. Remove contact lenses if present and easy to do. Seek immediate medical attention.

By ingestion/aspiration
Rinse mouth with water. Give water to drink if conscious. Seek medical attention if discomfort occurs or persists.

Most important symptoms/effects, acute and delayed

Acute and delayed effects are indicated in sections 2 and 11.

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

Not relevant

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Suitable: Water spray, carbon dioxide (CO2), dry chemical powder, sand – use extinguishing media suitable for surrounding fire. Product itself is non-combustible.
Unsuitable: None known specifically.

Specific hazards arising from the chemical

Non-combustible solid. Not expected to contribute significantly to a fire.

Special protective actions for fire-fighters

Wear standard fire-fighting protective equipment and, if in an enclosed space, self-contained breathing apparatus (SCBA).

Additional provisions
If safe to do so, remove exposed containers or cool with water spray from a safe distance. Prevent fire-fighting water from entering drains or watercourses; contain and collect for disposal.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel
Evacuate area if large spill. Avoid raising dust. Ensure adequate ventilation. Use appropriate PPE (see section 8).

For emergency responders
Wear standard chemical-resistant protective equipment including dust protection for large spills.

Environmental precautions

Prevent entry into drains, sewers and watercourses; may affect pH and cause aluminium hydroxide precipitation in receiving water.

Methods and materials for containment and cleaning up

Sweep/vacuum up carefully (avoid dust dispersion) and place in a dry, sealed, labelled container. Collect for disposal or, where permitted, recover for reuse.

Reference to other sections

See sections 8 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling

A. General precautions for safe use
Avoid contact with skin and eyes. Avoid generation and inhalation of dust. Handle in a dry environment – hygroscopic.

B. Technical recommendations for the prevention of fires and explosions
Non-combustible; standard precautions for handling hygroscopic powders apply.

C. Technical recommendations on general occupational hygiene
Wash hands and exposed skin after handling.

D. Technical recommendations to prevent environmental risks
Prevent uncontrolled discharge to drains and watercourses.

Conditions for safe storage, including any incompatibilities

A. Specific storage requirements

Storage temperature	Ambient, dry conditions (below 35°C recommended)
Maximum time	12 months in original sealed packaging

B. General conditions for storage
Store in a cool, dry, well-ventilated place in tightly sealed containers/bags, protected from moisture. Avoid prolonged contact with carbon steel.

Specific end use(s)

Except for the instructions already specified, it is not necessary to provide any special recommendation regarding the uses of this product.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

No specific occupational exposure limit has been established for this product/grade. Available on request.

Appropriate engineering controls

Use local exhaust ventilation where dust may be generated.

B. Respiratory protection
Use a particulate (dust) respirator (e.g., FFP2/N95) where dust is generated.

C. Specific protection for the hands
Chemical-resistant gloves (e.g., nitrile or PVC) recommended.

D. Eye and face protection
Chemical safety goggles recommended; face shield for operations with splash/dust risk.

E. Bodily protection
Protective clothing/apron for dust-generating operations.

F. Additional emergency measures
Emergency eyewash station and safety shower should be available in the work area.

Environmental exposure controls
Avoid environmental spillage of both the product and its container. See subsection 7.1.D.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	
Physical state at 20°C	Solid (powder)
Appearance	Free-flowing powder
Color	Yellow to yellowish-brown
Odor	Odorless / slight
Odour threshold	Not relevant
Volatility	
Boiling point	Not applicable (solid)
Vapour pressure	Negligible
Evaporation rate	Not relevant
Product Description	
Bulk density	approx. 400–600 kg/m³
pH (1% aqueous solution)	approx. 3.5–5.0
Solubility in water	Readily soluble
Basicity	approx. 80–90% (high-basicity, AC100S grade – exact spec available on request)
Flammability	
Flash Point	Non-applicable (non-flammable solid)
Flammability	Not classified as flammable

** Not relevant / not applicable due to the physical nature of the product.*

Other information

Explosive properties	Not explosive
Oxidising properties	Not oxidising
Corrosive to metals	Mildly corrosive to carbon steel in aqueous solution over prolonged exposure
Al_2O_3 content	Available on request (typically 28–30% for AC100S grade)

10. STABILITY AND REACTIVITY

Reactivity

Hygroscopic – may absorb moisture from air. Reacts with strong bases (precipitates aluminium hydroxide). Corrosive to certain metals in solution.

Chemical stability

Chemically stable when kept dry and sealed.

Possibility of hazardous reactions

Under normal conditions of storage, handling and use, hazardous reactions are not expected.

Conditions to avoid

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Absorbs moisture (hygroscopic)	No special sensitivity within recommended range	No special sensitivity	Avoid – hygroscopic, keep sealed

Incompatible materials

Strong Bases	Strong Oxidizers
Carbon Steel (in solution, prolonged contact)	Strong Reducing Agents

Hazardous decomposition products

Not expected under normal conditions of use and storage.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

In case of exposure that is repetitive, prolonged, or at concentrations higher than the recommended occupational exposure limits, adverse health effects may result depending on the means of exposure:

A. Ingestion (acute effect)
May cause mild gastrointestinal discomfort if swallowed in quantity; not expected to be acutely toxic.

B. Inhalation (acute effect)
Dust may be irritating to the respiratory tract.

C. Contact with skin and eyes (acute effect)
Causes skin irritation. Causes serious eye damage.

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity)
Classification criteria for carcinogenicity, mutagenicity and reproductive toxicity are not met based on available data.

E. Sensitizing effects
Not classified as a skin or respiratory sensitizer based on available data.

F. Specific target organ toxicity (STOT) – single exposure
May cause respiratory irritation (dust, H335).

G. Specific target organ toxicity (STOT) – repeated exposure
Classification criteria are not met based on available data.

H. Aspiration hazard
Classification criteria are not met based on available data.

Product-specific toxicological information

Identification	Acute Toxicity	Species
Poly aluminium chloride (powder) CAS: 1327-41-9	LD50 oral (rat): >5000 mg/kg (practically non-toxic)	Rat

12. ECOLOGICAL INFORMATION

Not classified as hazardous to the aquatic environment based on available data; elevated concentrations may affect pH and aluminium levels in receiving water.

Toxicity

Acute Toxicity	Species	Genus
LC50 (fish): >100 mg/L (96h), practically non-toxic	Not specified	Fish
EC50 (Daphnia): >100 mg/L (48h)	Daphnia magna	Crustacean

Persistence and degradability

Not applicable – inorganic polymer; hydrolyzes to aluminium hydroxide, a naturally occurring, low-solubility species.

Bioaccumulative potential

Not applicable – inorganic, does not bioaccumulate.

Mobility in soil

Koc	Henry	Dry Soil	Moist Soil
Low	Not relevant	No	Precipitates as aluminium hydroxide in neutral/moist soil

Results of PBT and vPvB assessment

Non-applicable – not assessed as a PBT/vPvB substance (inorganic polymer).

Other adverse effects

Not described

13. DISPOSAL CONSIDERATIONS

Disposal methods

Dissolve/neutralize if necessary and dispose of via a licensed effluent/hazardous waste contractor, in accordance with local regulations. Avoid generating dust during disposal handling.

Refer to national and local regulations on waste management (Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, as amended).

14. TRANSPORT INFORMATION

This product is not classified as a dangerous good for transport under ADR/RID, IMDG, or IATA/ICAO regulations in its supplied form/concentration.

14.1 UN number	Not applicable – not regulated
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Non-applicable
14.4 Packing group	Non-applicable
14.5 Environmental hazard	No
14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

15. REGULATORY INFORMATION

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

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of local circumstances, in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation

Manufacture, Storage and Import of Hazardous Chemicals Rules 1989
The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)
The Chemical Accidents (Emergency Planning, Preparedness, and Response) Rules, 1996
Public Liability Insurance Act, 1991

16. OTHER INFORMATION

Legislation related to safety data sheets

This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Texts of the legislative phrases mentioned in sections 2 and 3

H315: Causes skin irritation.
H318: Causes serious eye damage.
H335: May cause respiratory irritation.

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3.

Advice related to training

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources

The United Nations Economic Commission for Europe (UNECE); publicly available GHS classification and labelling data for the substance/CAS number referenced in Section 1.

Abbreviations and acronyms

ADR: European agreement concerning the international carriage of dangerous goods by road | IMDG: International maritime dangerous goods code | IATA: International Air Transport Association | ICAO: International Civil Aviation Organisation | COD: Chemical Oxygen Demand | BOD5: 5-day biochemical oxygen demand | BCF: Bioconcentration factor | LD50: Lethal Dose 50 | LC50: Lethal Concentration 50 | EC50: Effective Concentration 50 | Log-POW: Octanol-water partition coefficient | Koc: Partition coefficient of organic carbon | IARC: International Agency for Research on Cancer

Disclaimer: The information contained in this safety data sheet is based on sources, technical knowledge and current legislation, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product; it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within Suraj Chemicals' awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

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