

PRODUCT IDENTIFICATION



Product Name: Aluminum Sulfate Hydrate ACS Grade

CAS Number: 7784-31-8

Molecular Formula: $\text{Al}_2\text{H}_{36}\text{O}_{30}\text{S}_3$

Molecular Weight: 666.4 g/mol

Grade: ACS Grade

Purity / Concentration: Not Available

Synonyms: Alum, Potassium Aluminum Sulfate

PRODUCT OVERVIEW

Aluminum Sulfate Hydrate is a chemical compound with the formula $\text{Al}_2(\text{SO}_4)_3 \cdot n\text{H}_2\text{O}$, commonly used in various industrial applications. This compound is characterized by its high solubility in water and is primarily utilized in water treatment processes and as a coagulating agent.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay	%	100.0	99.5	100.5	Titration/Gravimetric
pH	—	3.63	2	3.8	pH Meter
Specific Gravity (20°C)	g/mL	1.3375	1.33	1.345	Hydrometer @ 25°C
Arsenic As	ppm	≤ 5 ppm	—	—	ICP-MS
Chromium Cr	ppm	≤ 5 ppm	—	—	ICP-OES
Heavy Metals As Pb	ppm	0.8	0	40	ICP-MS (as Pb)
Lead Pb	ppm	≤ 5 ppm	—	—	ICP-MS
Nickel Ni	ppm	1.5	0	20	ICP-OES
Cadmium Cd	ppm	≤ 5 ppm	—	—	ICP-MS
Insolubles	%	0.3	0	0.5	Filtration
Loss On Drying	%	22 – 25 %	—	—	Loss on Drying
Mercury Hg	ppm	≤ 1 ppm	—	—	ICP-MS
Particle Size	µm	100 – 10 µm	—	—	Sieve Analysis
Selenium Se	ppm	0.57	0	30	ICP-MS
Tin Sn	ppm	0.82	0	20	ICP-MS

ND = Not Detected. Values are typical and may vary by lot.

PHYSICAL & CHEMICAL PROPERTIES

Appearance	White crystalline powder, granular texture	Odor	Odorless
Form	Solid	Boiling Point	187°C (368.6°F)
Melting / Freezing Point	86°C (186.8°F)	Specific Gravity	1.61
Solubility	High water solubility, moderate organic solvent	Molecular Formula	Al ₂ H ₃₆ O ₃₀ S ₃
Molecular Weight	666.4 g/mol	Density (25°C)	1.67 g/mL

APPLICATIONS

1. **Environmental Engineering** — Used as a coagulant in water purification to remove impurities and clarify water.
2. **Pulp and Paper** — Acts as a sizing agent to improve the quality and durability of paper products.
3. **Textiles** — Utilized in dyeing processes to enhance color retention and fabric quality.
4. **Food Industry** — Serves as a firming agent in food products such as pickles and canned vegetables.
5. **Analytical Chemistry** — Commonly used in various chemical analyses and experiments.

STORAGE & HANDLING

- Store in a cool, dry place away from moisture.
- Use appropriate personal protective equipment (PPE) such as gloves and goggles.
- Avoid contact with strong acids and bases to prevent reactions.
- Keep containers tightly closed when not in use to prevent contamination.
- Compatible with HDPE and glass containers.

AVAILABLE PACKAGING

- 2 lbs.
- 5 Lbs.
- 50 Lbs.

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: **Danger**



Hazard Statements:

- H290 (17.2%): May be corrosive to metals [Warning Corrosive to Metals]
- H318 (99.2%): Causes serious eye damage [Danger Serious eye damage/eye irritation]
- H412 (17.2%): Harmful to aquatic life with long lasting effects [Hazardous to the aquatic environment, long-term hazard]

Emergency Contact: CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

For complete safety information, refer to the Safety Data Sheet (SDS) for this product.

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