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Aluminum Sulfate

Change to read:

$Al_2(SO_4)_3 \cdot xH_2O$▲ (ERR 1-Nov-2024)

Sulfuric acid, aluminum salt (3:2), hydrate.

Aluminum sulfate (2:3) hydrate CAS RN®: 17927-65-0; UNII: 34S289N54E.

Anhydrous

▲342.13▲ (ERR 1-Nov-2024) CAS RN®: 10043-01-3; UNII: I7T908772F.

» Aluminum Sulfate contains not less than 54.0 percent and not more than 59.0 percent of $Al_2(SO_4)_3$. It contains a varying amount of water of crystallization.

Packaging and storage—Preserve in well-closed containers.

Identification—A solution (1 in 10) responds to the tests for *Aluminum* and for *Sulfate* ⟨191⟩.

pH ⟨791⟩: not less than 2.9, in a solution (1 in 20).

Water Determination, *Method I* ⟨921⟩: not less than 41.0% and not more than 46.0%.

Limit of alkalies and alkaline earths—To a boiling solution of 1.0 g in 150 mL of water add a few drops of methyl red TS and then add 6 N ammonium hydroxide just until the color of the solution changes to a distinct yellow. Add hot water to restore the volume to 150 mL, and filter while hot. Evaporate 75 mL of the filtrate to dryness, and ignite to constant weight: not more than 2 mg of residue remains (0.4%).

Limit of ammonium salts—Heat 1 g with 10 mL of 1 N sodium hydroxide on a steam bath for 1 minute: the odor of ammonia is not perceptible.

Iron—To 20 mL of a solution (1 in 150) add 0.3 mL of potassium ferrocyanide TS: no blue color is produced immediately.

Assay—

Edetate disodium titrant—Prepare and standardize as directed in the *Assay* under *Ammonium Alum*.

Procedure—Transfer about 7.5 g of Aluminum Sulfate, accurately weighed, to a 250-mL volumetric flask, and dissolve in water. Dilute with water to volume, mix, and pipet 10 mL of the solution into a 250-mL beaker. Proceed as directed in the *Assay for aluminum oxide* under *Aluminum Acetate Topical Solution*, beginning with "add, in the order named." Each mL of 0.05 M *Edetate disodium titrant* is equivalent to 8.554 mg of $Al_2(SO_4)_3$.

Auxiliary Information - Please check for your question in the FAQs before contacting USP.

Topic/Question	Contact	Expert Committee
ALUMINUM SULFATE	Documentary Standards Support	SM12020 Small Molecules 1
REFERENCE STANDARD SUPPORT	RS Technical Services RSTECH@usp.org	SM12020 Small Molecules 1

Chromatographic Database Information: Chromatographic Database

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