

D. MONOGRAPHS

Ammonium Sulfate

(NH₄)₂SO₄

Mol. Wt. 132.14

ammonium sulfate

[7783-20-2]

Content Ammonium Sulfate contains not less than 99.0% of ammonium sulfate [(NH₄)₂SO₄].

Description Ammonium Sulfate occurs as colorless crystals or white lumps.

Identification Ammonium Sulfate responds to all tests for Ammonium Salt and for Sulfate as described in the Qualitative Tests.

Purity (1) Clarity and color of solution Colorless and almost clear (1.0 g, water 20 ml).

(2) Heavy metals Not more than 20 µg/g as Pb (1.0 g, Method 1, Control solution Lead Standard Solution 2.0 ml).

(3) Arsenic Not more than 4.0 µg/g as As₂O₃ (0.50 g, Method 1, Apparatus B).
Residue on Ignition Not more than 0.25%.

Assay Weigh accurately about 3 g of Ammonium Sulfate and dissolve in water to make exactly 250 ml. Measure exactly 25 ml of this solution, add 10 ml of sodium hydroxide solution (2 5), and immediately equip with a distilling apparatus equipped with a spray-preventing device and a condenser and connected to a receiver containing 40 ml of 0.1 mol/l sulfuric acid, exactly measured. Heat to distill ammonia into sulfuric acid, and titrate the excess sulfuric acid with 0.2 mol/l sodium hydroxide (indicator: 3 drops of methyl red TS).

1 ml of 0.1 mol/l sulfuric acid = 13.214 mg of (NH₄)₂SO₄