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Ammonium Carbonate

Carbonic acid, monoammonium salt mixture with ammonium carbamate;
Monoammonium carbonate mixture with ammonium carbamate
CAS RN®: 8000-73-5.

DEFINITION

Ammonium Carbonate consists of ammonium bicarbonate (NH_4HCO_3) and ammonium carbamate ($\text{NH}_2\text{COONH}_4$) in varying proportions. It yields NLT 30.0% and NMT 34.0% of ammonia (NH_3).

IDENTIFICATION

• **A.** When heated, it is volatilized without charring, and the vapor is alkaline to moistened litmus paper. A solution (1 in 20) effervesces with acids.

ASSAY

• **PROCEDURE**

Sample solution: Place 10 mL of water in a weighing bottle, tare the bottle and its contents, add 2 g of Ammonium Carbonate, and weigh.

Titrimetric system

(See [Titrimetry \(541\)](#).)

Mode: Residual titration

Titrant: 1 N sulfuric acid VS

Back-titrant: 1 N sodium hydroxide VS

Blank: 50.0 mL of 1 N sulfuric acid VS, accurately measured

Endpoint detection: Colorimetric

Analysis: Transfer the *Sample solution* to a 250-mL flask, add 50.0 mL of 1 N sulfuric acid VS, and when the solution has been effected, add methyl orange TS. Titrate the excess acid with 1 N sodium hydroxide VS. Perform a blank determination. Calculate the percentage of ammonia (NH_3) in the sample taken.

$$\text{Result} = [(B - V) \times N \times F \times 100] / W$$

B = 1 N sodium hydroxide VS consumed by the *Blank* (mL)

V = 1 N sodium hydroxide VS consumed by the sample (mL)

N = actual normality of the *Back-titrant* (mEq/mL)

F = equivalency factor, 17.03 mg/mEq

W = weight of the sample (mg)

Acceptance criteria: 30.0%–34.0%

IMPURITIES

- [RESIDUE ON IGNITION \(281\)](#): NMT 0.1%
- [CHLORIDE AND SULFATE, Chloride \(221\)](#): A 2.0-g portion shows no more chloride than corresponds to 0.10 mL of 0.020 N hydrochloric acid (0.0035%).
- [CHLORIDE AND SULFATE, Sulfate \(221\)](#): A 2.0-g portion shows no more sulfate than corresponds to 0.10 mL of 0.020 N sulfuric acid (0.005%).

ADDITIONAL REQUIREMENTS

- **PACKAGING AND STORAGE:** Preserve in tight, light-resistant containers, and store at a temperature not above 30°.

Topic/Question	Contact	Expert Committee
AMMONIUM CARBONATE	Documentary Standards Support	SE2020 Simple Excipients

Chromatographic Database Information: [Chromatographic Database](#)

Most Recently Appeared In:
Pharmacopeial Forum: Volume No. Information currently unavailable

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