

AMMONIUM CHLORIDE

Prepared at the 23rd JECFA (1979), published in FNP 12 (1979) and in FNP 52 (1992). Metals and arsenic specifications revised at the 63rd JECFA (2004). An ADI 'not limited' was established at the 23rd JECFA (1979)

SYNONYMS Sal ammoniac, ammonium muriate, INS No. 510

DEFINITION

Chemical names Ammonium chloride

C.A.S. number 12125-02-9

Chemical formula NH_4Cl

Formula weight 53.50

Assay Not less than 99.0% on the dried basis

DESCRIPTION Colourless crystals, or a white, fine or coarse, crystalline powder; somewhat hygroscopic

FUNCTIONAL USES Dough conditioner, yeast food

CHARACTERISTICS

IDENTIFICATION

Solubility Freely soluble in water, sparingly soluble in ethanol

pH (Vol. 4) 4.5 - 6.0 (1 in 20 soln)

Test for ammonium (Vol. 4) Passes test

Test for chloride (Vol. 4) Passes test

PURITY

Loss on drying (Vol. 4) Not more than 2.0% (over silica gel, 4 h)

Sulfated ash (Vol. 4) Not more than 0.5%
Test 2 g of the sample (Method I)

Lead (Vol. 4) Not more than 2 mg/kg
Determine using an atomic absorption technique appropriate to the specified level. The selection of sample size and method of sample preparation may be based on the principles of the method described in Volume 4, "Instrumental Methods."

METHOD OF ASSAY

Dry about 0.2 g of the sample over silica gel for 4 h, weigh accurately, and dissolve it in about 40 ml of water in a glass-stoppered flask. Add, while agitating, 3 ml of nitric acid, 5 ml of nitrobenzene, 50.0 ml of 0.1 N silver

nitrate, shake vigorously, then add 2 ml of ferric ammonium sulfate TS, and titrate the excess silver nitrate with 0.1 N ammonium thiocyanate. Each ml of 0.1 N silver nitrate is equivalent to 5.349 mg of NH_4Cl .