

Catalog Number: 150109, 191406, 194623, 194806

Ammonium Chloride

Structure:

**Molecular Formula:** NH₄Cl**Molecular Weight:** 53.5**CAS #** 12125-02-9**Synonyms:** Ammonium chloride; Amchlor; Ammoneric; Darammon; Sal ammoniac; Ammonium muriate; Salmiac**Physical Appearance:** White crystalline powder**Solubility:** Soluble in water (100 mg/ml - clear, colorless solution). The presence of hydrochloric acid or sodium chloride decrease water solubility.¹ Also soluble in methanol and ethanol.¹**pH:**¹

1% aqueous solution: 5.5

3% aqueous solution: 5.1

10% aqueous solution: 5.0

Description: Ammonium chloride is used in both industrial and research applications. Industrial applications include as a flux for coating sheet iron with zinc; tinning; in dry and Leclanch batteries; dyeing, freezing mixtures, electroplating, to clean soldering irons, safety explosives, lustering cotton, tanning; in washing powders; manufacturing of dyes; in cement for iron pipes; for snow treatment (slows melting on ski slopes).¹

In research, ammonium chloride has been used in:

- To lyse human red blood cells^{2,5,8}
- Used in the study of basic calcium phosphate crystals in fibroblasts⁴
- Used in the isolation of proteins from 50S ribosomal subunits of *Bacillus stearothermophilus*³
- Used in biological buffers

Availability:

Catalog Number	Description	Size
150109	Ammonium Chloride	100 g 500 g 1 kg

194623	Ammonium Chloride, cell culture reagent	100 g 500 g 1 kg
194806	Ammonium Chloride, molecular biology reagent	100 g 500 g 1 kg
191406	Ammonium Chloride ACS Reagent Grade	500 g 1 kg 5 kg

Also Available:

<i>Catalog Number</i>	<i>Description</i>	<i>Size</i>
540113	Ammonium Chloride-¹⁵N, purity 99% ¹⁵N atom	1 g

References:

1. *Merck Index*, **12th Ed.**, No. 537.
2. Baerlocher, G.M., et al., "Telomere length measurement by fluorescence in situ hybridization and flow cytometry: tips and pitfalls." *Cytometry*, **v. 47(2)**, 89-99 (2002).
3. Gewitz, H.S., et al., "Reconstitution and crystallization experiments with isolated split proteins from *Bacillus stearothermophilus* ribosomes." *Biochem. Int.*, **v. 15(5)**, 887-895 (1987).
4. Halverson, P.B., et al., "Intracellular calcium responses to basic calcium phosphate crystals in fibroblasts." *Osteoarthritis Cartilage*, **v. 6(5)**, 324-329 (1998).
5. Kang, E.M., et al., "Mobilization, collection, and processing of peripheral blood stem cells in individuals with sickle cell trait." *Blood*, **v. 99(3)**, 850-855 (2002).
6. Korber, P., et al., "HSP15: a ribosome-associated heat shock protein." *EMBO J.*, **v. 19(4)**, 741-748 (2000).
7. Locatelli, C., "Measurement of voltammetric peak area and resolution of overlapping peaks in the simultaneous determination of copper, lead, cadmium, and nickel in environmental matrixes." *J. AOAC Int.*, **v. 83(6)**, 1321-1326 (2000).
8. Ridings, J., et al., "Purification of cord blood lymphocytes." *J. Immunol. Methods*, **v. 195(1-2)**, 43-48 (1996).