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ProductInformation

Ammonium nitrate

Product Number **A9642**
Store at Room Temperature

Product Description

Molecular Formula: NH_4NO_3
Molecular Weight: 80.04
CAS Number: 6484-52-2

Ammonium nitrate is a reagent that is used in the manufacture of such products as fertilizers, matches, and nitrous oxide.[1] It is utilized in the treatment of titanium ores. Ammonium nitrate is also an ammonia source in plant culture.[2,3]

Ammonium nitrate has been used as a precipitant in the crystallization of the glycosylated inhibitor of cathepsin D and trypsin isolated from potato tubers.[4] The use of ammonium nitrate in the analysis of binding chelators and their metal complexes by anion-exchange chromatography and inductively coupled plasma mass spectrometry has been studied.[5] The effect of the concentration of various nutrients, including ammonium nitrate, on cell growth and production of nystatin by *Streptomyces noursei* has been investigated.[6] The use of ammonium nitrate in the biotreatment of hydrocarbons-contaminated soils has been described.[7]

A Fourier-transform infrared absorbance and transmittance study of ammonium nitrate in the 2-20 μm range has been published.[8]

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in water (100 mg/ml), yielding a clear, colorless solution. The pH of a 0.1 M solution of ammonium nitrate in water is 5.43.[1]

References

1. The Merck Index, 12th ed., Entry# 567.
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3. Rawat, S. R., et al., AtAMT1 gene expression and NH_4^+ uptake in roots of *Arabidopsis thaliana*: evidence for regulation by root glutamine levels. Plant J., **19(2)**, 143-152 (1999).
4. Baudys, M., et al., Crystallization and preliminary crystallographic study of cathepsin D inhibitor from potatoes. J. Mol. Biol., **218(1)**, 21-22 (1991).
5. Ammann, A. A., Determination of strong binding chelators and their metal complexes by anion-exchange chromatography and inductively coupled plasma mass spectrometry. J. Chromatogr. A, **947(2)**, 205-216 (2002).
6. Jonsbu, E., et al., Effects of nitrogen sources on cell growth and production of nystatin by *Streptomyces noursei*. J. Antibiot. (Tokyo), **53(12)**, 1354-1362 (2000).
7. Juteau, P., et al., Improving the biotreatment of hydrocarbons-contaminated soils by addition of activated sludge taken from the wastewater treatment facilities of an oil refinery. Biodegradation, **14(1)**, 31-40 (2003).
8. Jarzembski, M. A., et al., Complex refractive index of ammonium nitrate in the 2-20 μm spectral range. Appl. Opt., **42(6)**, 922-930 (2003).

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