



# National Institute of Standards & Technology

## Certificate of Analysis

### Standard Reference Material 194

#### Ammonium Dihydrogen Phosphate

This Standard Reference Material (SRM) is a highly purified and homogeneous lot of crystalline ammonium dihydrogen phosphate. It is intended primarily for use in the fertilizer industry as a working standard in the determination of ammoniacal nitrogen and phosphorus. This SRM is supplied as a crystalline substance in a 90 gram unit. The ammonium dihydrogen phosphate must be dried at 110 °C for two hours before use.

	<u>Percent by Weight<sup>a</sup></u>
Nitrogen	12.15 ± 0.01
Phosphorus	26.92 ± 0.02

<sup>a</sup>The uncertainties for the certified values represent the 95 percent confidence limits calculated as  $t s/\sqrt{n}$ , where  $t = 2.145$ ,  $s = 0.02$ ,  $n = 15$  for nitrogen, and  $t = 2.262$ ,  $s = 0.03$ ,  $n = 10$  for phosphorus.

Five random samples were selected from the lot for analysis. The value for nitrogen is based upon fifteen nitrogen determinations on the selected samples using a modified Kjeldahl method in which the reagents were standardized and intercompared. The value for phosphorus is based on ten gravimetric determinations as quinolinium phosphomolybdate.

The analytical measurements on which the certifications are based were made by J.R. Baldwin, R.K. Bell, M.M. Darr, and W.P. Schmidt of the former NBS Analytical Chemistry Division.

The overall coordination of the technical work leading to certification was under the chairmanship of J.K. Taylor of the former NBS Analytical Chemistry Division.

The technical and support aspects involved in the original preparation, certification, and issuance of this Standard Reference Material were coordinated through the Standard Reference Materials Program by R.E. Michaelis and C.L. Stanley. Revision of the Certificate was coordinated through the Standard Reference Materials Program by J.C. Colbert.

*This Certificate of Analysis has undergone editorial revision to reflect program and organizational changes at NIST and at the Department of Commerce. No attempt was made to reevaluate the certificate value or any technical data presented in this certificate.*

Gaithersburg, MD 20899  
September 1, 1992  
(Revision of certificate dated 1-8-74)

William P. Reed, Chief  
Standard Reference Materials Program

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## SUPPLEMENTAL INFORMATION

This ammonium dihydrogen phosphate was obtained from the J.T. Baker Chemical Company, Phillipsburg, NJ. It was examined for compliance with the specifications for reagent grade ammonium dihydrogen phosphate as given in Reagent Chemicals, 4th edition, published by the American Chemical Society. The material meets or exceeds all requirements.

A spectrochemical survey for trace contaminants indicated sodium to be present, but at less than 0.01 percent; and calcium, copper, iron, and magnesium to be present but at less than 0.0001 percent.