National Institute of Standards & Technology

Certificate of Analysis

Standard Reference Material 3181

Anion Standard Solution Sulfate

This Standard Reference Material (SRM) is intended for use in anion ion chromatography, or any other analytical technique that requires aqueous standard solutions for calibration or as control samples. SRM 3181 is a single component solution prepared gravimetrically to contain 1000 μg sulfate per gram of solution. The certified value is based on gravimetric procedures, i.e., weight per weight composition of a high-purity salt dissolved in filtered (0.22 μm) 18 megohm water. The calculated concentration of sulfate is based on the weights of K_2SO_4 and the solution, and on the molecular weights of potassium sulfate and sulfate (174.2542 and 96.0576, respectively). To confirm the gravimetric value, samples were analyzed by ion chromatography. The density of the solution was measured to be 0.998 g/mL at 25 °C.

Component	Concentration, (μg/g)	Source
Sulfate	1000 ± 5	K_2SO_4*

*The potassium sulfate was a lot of material reserved for ion chromatographic use, which had been previously intercompared with coulometrically standardized sulfuric acid and found to be at least 99.7 % pure.

Stability

This certificate is valid for six months from the shipping date provided the solutions are kept tightly capped and stored under normal conditions in an area known to be free of acid fumes and sulfur dioxide. NIST will monitor the stability of these solutions; if any changes occur that invalidate this certification, NIST will notify purchasers.

SRM 3181 was prepared by W.F. Koch and K.W. Pratt of the NIST Inorganic Analytical Research Division.

The technical and support aspects involved in the preparation, certification, and issuance of this Standard Reference Material were coordinated through the Standard Reference Materials Program by J.S. Kane.

June 14, 1991
Gaithersburg, MD 20899
(Revision of Certificate
dated January 26, 1987)

William P. Reed, Chief
Standard Reference Materials Program