



National Institute of Standards & Technology

Certificate of Analysis

Standard Reference Material 3183

Anion Standard Solution

Fluoride

Batch Code 390212

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 3183 is a single component solution prepared gravimetrically by dissolving high-purity sodium fluoride in filtered (0.22 μm) 18 megohm water to contain a nominal 1000 μg fluoride per g of solution. The sodium fluoride was taken from a lot of material reserved for ion chromatographic use, which had been previously intercompared with coulometrically standardized hydrofluoric acid and found to be at least 99.5% pure. The certified value is based on titrimetric fluoride assay using a lanthanum nitrate titrant, standardized against SRM 3127a Lanthanum Spectrometric Standard Solution. The uncertainty is based on titrimetric uncertainties in the certification assay and the effect of solvent transpiration through the container walls for one year. The density of the solution at 22 °C is 1.000 g/mL .

Component	Concentration mg/kg	Source
Fluoride	1000 \pm 5	NaF

Stability: This certification is valid for one year from the shipping date, provided the solution is kept tightly capped and stored under normal laboratory conditions in an area known to be free of acid fumes. NIST will monitor the stability of representative solutions from the SRM lot; and if any changes occur that invalidate this certification, NIST will notify purchasers.

SRM 3183 was prepared by T.A. Butler and analyzed by C.M. Beck II of the NIST Inorganic Analytical Research Division.

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

Gaithersburg, MD 20899
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Thomas E. Gills, Acting Chief
Standard Reference Materials Program