

Method Abstract #31

Fluoride by Direct Measure

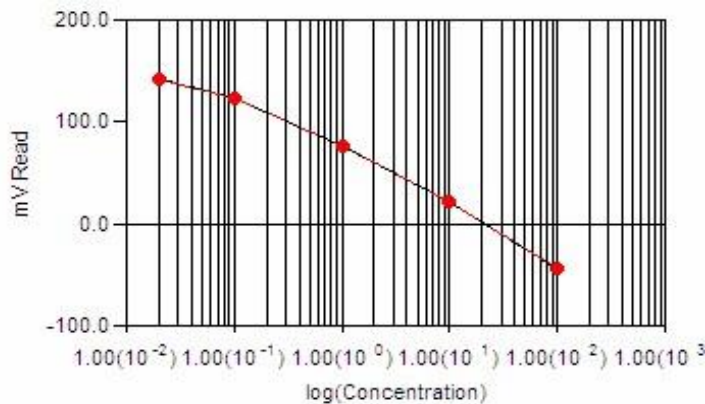
Scope and Application

This method conforms to Standard Methods 4500-F⁻ A, ASTM D 1179 (B) and ISO 10359-1. It determines the concentration of fluoride ions in a water sample.

Method and Summary

The concentration of fluoride is determined by a fluoride ion selective electrode. After calibrating with known standards, the sample's response can be compared to the calibration curve and a concentration determined. Both the standards and the samples are pre-treated with TISAB (Total Ionic Strength Adjuster) to ensure that the background response from each sample is similar.

Sample Calibration



Method Performance

Parameter	Specification
Measuring Range*	0.02 – Saturated
MDL**	0.02ppm
RSD @ 0.02ppm	10.53% or +/- 0.002ppm
RSD @ 1ppm	1.57% or +/- 0.02ppm
RSD @ 10ppm	0.65% or +/- 0.07ppm
RSD @ 100ppm	0.95% or +/- 0.95ppm

*Data for this measuring range was obtained using laboratory prepared standards formulated from sodium fluoride. The measuring range may be increased by using auto-dilution.

**The Method Detection Limit (MDL) was determined based on data obtaining a coefficient of variance better than 30%. Results may differ depending on laboratory practices and sample matrix.

RSD values are better than those specified in Standard Methods.