

Method Abstract #48

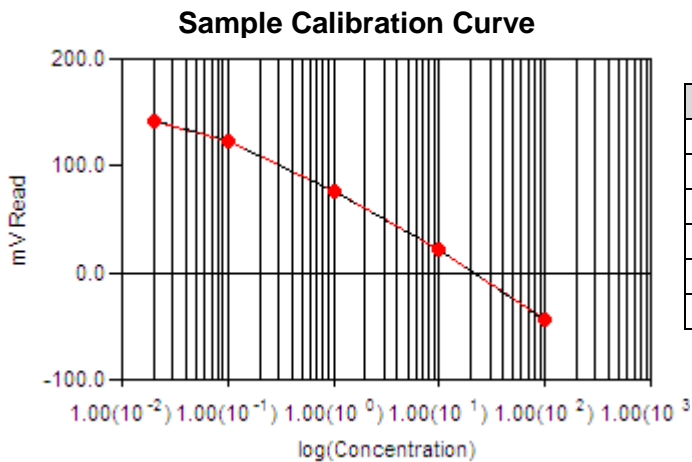
Fluoride by Standard Addition

Scope and Application

This method determines the concentration of fluoride ions in a sample and helps overcome sample matrix difficulties.

Method Summary

The concentration of fluoride is determined by a fluoride ion selective electrode (ISE). An initial reading is taken, following which a known amount of a higher concentration standard is added to the sample, via buret. A second measurement is then taken and based on the millivolt (mV) difference the concentration of the initial sample can be calculated. 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.



Method Performance

Parameter	Specification
Measuring Range*	0.1 – 1000ppm
MDL**	0.1ppm
RSD @ 0.1ppm	3.60%
RSD @ 1ppm	8.75%
RSD @ 10ppm	1.61%
RSD @ 100ppm	2.23%

*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.