

Method Abstract #72

Alkalinity

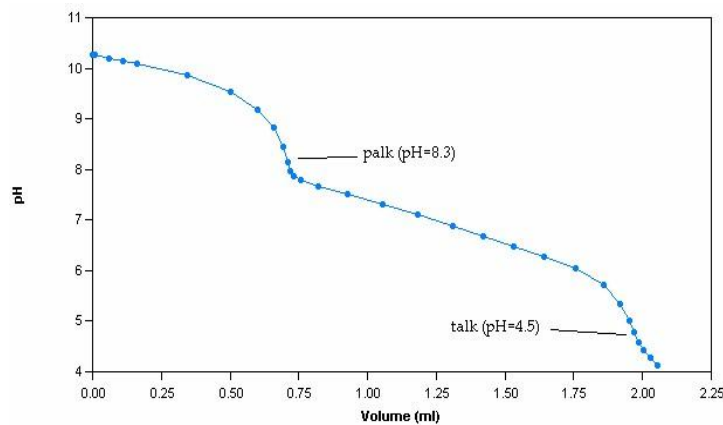
Scope and Application

This alkalinity method conforms to Standard Methods 2320 B, ASTM D 1067 and ISO 9963-2. It determines the total and phenolphthalein alkalinity of aqueous samples, along with measuring the concentrations of carbonate, bicarbonate, and hydroxide. Gran alkalinity can also be determined simultaneously.

Method Summary

Alkalinity analysis involves the titration of samples with standard 0.02N sulphuric acid (H₂SO₄) titrant to endpoints of pH 8.3 and 4.5. For alkalinities less than 20 mg CaCO₃/L, an additional endpoint at pH 4.2 is recorded. 0.02N hydrochloric acid (HCl) titrant may also be used.

Sample Titration Curve



Method Performance

Parameter	Specification
Measuring Range*	0.3 – 2500ppm
MDL**	0.3ppm
RSD @ 0.3ppm	24.58% or +/- 0.07ppm
RSD @ 1ppm	6.49% or +/- 0.06ppm
RSD @ 10ppm	0.96% or +/- 0.10ppm
RSD @ 200ppm	0.48% or +/- 0.96ppm

*Data for this measuring range was obtained using laboratory prepared standards formulated from sodium carbonate. The measuring range may be increased by using larger capacity analysis vessels and/or 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.