ALS Environmental Hawarden
Units 7-8 Manor Road
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Method Summary

Determination of Fluoride by Kone

Scope and Range

This method determines fluoride in aqueous samples by colourimetry, using the Kone analyser. This method is accredited to ISO17025 and applicable to natural waters including ground water, industrial effluents, CEN leachates, crude and final sewages.

Limit of Detection:	0.5mg/l
Method range:	0.5 - 3.00 mg/l.
Range with Auto Dilution:	0.5 - 6.00 mg/l

Principle

Preparation and Extraction
A portion of sample is filtered prior to analysis.
Analysis
Samples are analysed using a Konelab 30. Alizarin forms a red complex with either lanthanum (III) or cerium (III), which turns blue upon the addition of fluoride due to the formation of a mixed ligand complex containing both fluoride and alizarin. Additional reagents are added to enhance reagent stability and provide optimum pH for the colour forming reaction. This method uses the cerium alizarin complex, which is measured at 620 nm.

Interferences

High aluminium (>1000 µg/l) and highly coloured samples can cause interference. Steps are taken to eliminate these interferences.