



## **Method Summary**

### **Determination of Fluoride in Soils and Sludge by Ion Selective Electrode**

#### **Scope and Range**

This method is applicable to sewage sludge, soils and related materials such as sediments and is accredited to ISO17025 for soils and sludge. This method details the determination of fluoride in solution by the use of Ion Selective Electrode.

It has an LOD of 20 mg/kg with a range of 20 - 4,000 mg/kg.

#### **References**

Fluoride in Waters, Effluents, Sludges, Plants and Soils 1982; Methods for the examination of Waters and Associated Materials; HMSO 1983 (ISBN011 751662 7)

#### **Principle**

Preparation and Extraction:

Fluoride is reasonably stable, but samples should be collected in plastic containers.

Samples should be stored in fridge until required with a maximum holding time of 28 days.

Sludge is analysed as received. Soils are dried at 35°C and then crushed.

The sample is hot digested with sulphuric acid.

Analysis:

The sample is analysed using an Ion Selective Electrode (ISE)

#### **Interferences**

High concentrations of  $Al^{3+}$ ,  $Fe^{3+}$  and  $La^{3+}$  form complexes with fluoride leading to low results