Method Summary

Determination of Elemental Sulphur in Soils by HPLC

Scope and Range

This method is suitable for the determination of elemental sulphur in soils (mg/kg)
The calibrated range of the instrument is 0-100mg/l. (0-1,000mg/kg)
The detection limit for soils is 5mg/kg.
It is MCERTS accredited for soils.

References

none

Principle

Soil samples should be stored at 1-8°C until ready for extraction.

10g of soil is extracted in dichloromethane (DCM) by soxtherm, and then made up to 100mls with DCM before analysis.
All samples are organised into batches, then pipetted straight into labelled vials after extraction and racked up before being transferred to the instrument autosampler.

An aliquot of the sample is injected onto a liquid chromatography column, where the sulphur is separated by reverse phase HPLC. The separated sulphur is carried past a UV source/detector with the flow of eluent through the system. The detector senses a change in absorbance at the set wavelength of 263nm as the sulphur passes it. This change in absorbance is recorded and when plotted over time gives a peak for the sulphur. The sulphur peak is integrated to find the area beneath it and a result is obtained by comparison to a set of standards of known concentration.

Interferences

Any compounds which share a retention time and an absorbance at 263nm are potential sources of interferences in this analysis.