Method Summary

Determination of Coronene in soil samples by shaker extraction and GC-MS

Scope and Range

This method describes a procedure for the identification and quantification of Coronene, using shaker extraction unit and an Agilent Gas Chromatograph Mass Selective Detector (GC-MSD).

Coronene is outside the scope of accreditation.

The limits of detection are detailed on the following page.

References

none

Principle

Coronene is extracted from soil samples with hexane:acetone:triethylamine 50:45:5%v/v using shaker extraction.

An internal standard solution containing deuterated PAHs is added to the samples prior to extraction; these are used for Coronene quantification. Coronene is separated and detected using a suitable GC-MS system.

Compound identification is performed by Selective Ion Monitoring (SIM) and quantification of the component is carried out by means of the Internal Standard (IS) calibration technique.

Preparation and Extraction:
10g of well homogenised 'as received' soil is extracted, using a shaker extraction kit with a known amount of solvent mix and internal standards. Following extraction, 1ml of the extract is transferred to an autosampler and analysed.

Analysis:
The vials are loaded onto the GC autosampler along with vials containing standards, blanks, and AQC samples. An AQC sample and a blank are extracted with and run with every twenty samples.

The standards used for quantitation contain the Coronene compound and a five-point calibration is run. Any extracts with concentrations higher than the top standard are diluted and re-run until they fall within the calibration range.

Sample concentrations are calculated against the standard calibration.

Compound	Target Ions	Qualifier Ions	LOD (µg/kg)
Internal Standard			
Perylene-d12	264	132	-
Target Compounds			
Coronene	300	148	200