



Method Summary

Determination of Total Gasoline Range Organic (GRO) Hydrocarbons in Soils by Headspace GCFID

Scope and Range

This method describes a procedure for determining the concentration of gasoline range organic hydrocarbons (GRO) in the carbon range >C5 to C12.

This method is applicable to the analysis of soils.

The holding time for samples for the method is 14 days.

The concentration range is from a maximum of 36,000 µg/kg down to the reporting limits shown in the table below:

Component Name	Reporting Limit (µg/kg)
GRO >C5-C12	100
Aliphatic >C5-C6	10
Aliphatic >C6-C8	10
Aliphatic >C8-C10	10
Total Aliphatics >C5-C12	50
Aliphatic >C10-C12	10
Aromatic >EC5-EC7	10
Aromatic >EC7-EC8	10
Aromatic >EC8-EC10	10
Aromatic >EC10-EC12	10
Total Aromatics >EC5-EC12	50

GRO Total (>C5-C12) is ISO17025 and MCERTS accredited. This method does not carry accreditation for individual GRO banding.

References

National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013) Schedule B3

Principle

An aliquot of the sample is transferred to a headspace vial and heated/agitated to drive organic analytes into the headspace of the vial. A portion of the headspace is transferred to a gas chromatograph where the compounds are separated and detected by flame ionisation detection.

Interferences

Flame ionisation detection (FID) is a non-selective form of detection that produces a signal for any

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component that is FID amenable, as such, solvents, reagent glassware and other sample processing hardware may yield artefacts and/or interferences to sample analysis. All these materials must be demonstrated to be free from interferences under the conditions of the analysis. This is undertaken by analysis of method blanks.