

Method Number: TM 038

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Method Summary**Determination of Water soluble Formaldehyde in soils****Scope and Range**

Samples of aqueous extracts from soils are measured for formaldehyde by colorimetric analysis over the range 1.0 - 20.0 mg/kg. The detection limit is 1.0 mg/kg.

This method is applicable to soils, sediments and similar solid samples consisting of principally of sand, clay and loam soils.

This method is validated for LUFA soil and is un-accredited.

References

NASH, T (1953) Colorimetric estimation of formaldehyde by means of the Hantzsch reaction Biochem. J., 55:416-421

Formaldehyde, LCK 325, Handbook of Photometrical Operation Analysis, Dr Lange

Principle

The sample is analysed as a sub sample of the main bulk sample and in the 'as received' state without prior drying and crushing.

The sample is shaken, centrifuged and filtered prior to analysis together with a blank and AQC.

Formaldehyde reacts in aqueous solution with ammonium ions and acetylacetone to form a yellow dye diacetyldihydrolutidine (DDL), that is measured photometrically at 413 nm by Dr. Lange test kit.

Calculation of Results:

Formaldehyde = (Reading (mg/kg) - Blank Reading) x prep dilution x further dilution

Interferences

The high selectivity of the method almost excludes interferences from other aldehydes. Strong oxidising agents may interfere.

Colour may interfere this can be removed by the addition of activated charcoal and filtering.

Calculation of Results

Formaldehyde = (Reading (mg/kg) - Blank Reading) x prep dilution x further dilution