
**Soil quality — Determination of selected
coal-tar-derived phenolic compounds
using high performance liquid
chromatography (HPLC)**

*Qualité du sol — Dosage d'une sélection de composés phénoliques
dérivés du goudron de houille en utilisant la chromatographie liquide à
haute performance (CLHP)*



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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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Soil quality — Determination of selected coal-tar-derived phenolic compounds using high performance liquid chromatography (HPLC)

1 Scope

This International Standard specifies a method for the quantitative determination of selected coal-tar-derived phenols, namely phenol, methylphenols such as (*ortho*-, *meta*-, *para*-)cresols, and dihydroxybenzenes such as catechol, resorcinol and hydroquinone (see Table 1) in soil by using high performance liquid chromatography with ultraviolet/diode array (HPLC/UV/DAD) or fluorescence (HPLC/FLD) or electrochemical detection (HPLC/ELCD). It is applicable to all types of soil with contamination levels of individual phenols in the range of approximately 0,08 mg/kg to 10 mg/kg of soil.

NOTE Also with this method, other higher methylated phenols, for example, dimethylphenols such as (2,3-, 2,4-, 2,5-, 2,6-, 3,4- and 3,5-)xlenoles, 2-isopropylphenol, 2,3,5-trimethylphenol and 1-naphthol can be analysed, provided the suitability and the validity of the method are proven.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 10381-1, *Soil quality — Sampling — Part 1: Guidance on the design of sampling programmes*

ISO 11465, *Soil quality — Determination of dry matter and water content on a mass basis — Gravimetric method*

ISO 8466-1, *Water quality — Calibration and evaluation of analytical methods and estimation of performance characteristics — Part 1: Statistical evaluation of the linear calibration function*