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Determination of volatile organic compounds in soil of agricultural production area-Gas chromatography with dual columns

农产品产地土壤中挥发性有机物检测方法 双柱气相色谱法

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Table of Contents

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting is required.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed by the Ministry of Agriculture and Rural Affairs of the People's Republic of China.

This document is under the jurisdiction of the National Technical Committee on Soil Quality Standardization (SAC/TC 404).

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Volatile organic compounds in soils of agricultural product production areas Detection method. Dual column gas chromatography

1 Scope

This document describes a gas chromatography method (dual-column gas chromatograph) for the determination of volatile organic compounds (VOCs) in soils from agricultural production areas. Spectrum method).

This document is applicable to the detection of volatile organic compounds such as halogenated hydrocarbons and aromatic hydrocarbons in agricultural product production areas and related soils.

2 Normative references

GB/T 6682

NY/T 395

NY/T 1121.1

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 agricultural production area

Areas where animals, plants and their biological products are obtained from agricultural activities.

4 Principle

Volatile organic compounds in the soil of agricultural production areas are generated by environmental pollution and the use of agricultural inputs.

Under this condition, the volatile organic components in the sample in the headspace bottle are volatilized, and when the gas, solid and liquid phases reach thermodynamic dynamic equilibrium, the headspace is used to The sample is injected by a single or double needle of the sampler, separated by a double column of gas chromatography, and then enters the

hydrogen flame detector (FID) and the electron capture detector (ECD) for detection.

Measure and record them separately, use retention time for qualitative analysis and external or internal standard for quantitative analysis, and calculate the content of the target compound.

5.1 Test water

Double distilled water or water prepared by pure water equipment meets the requirements of secondary water in GB/T 6682.Before use, it should be subjected to a blank test to confirm It is confirmed that no interfering chromatographic peaks appear within the retention time interval of the target compound or that the concentration of the target compound is lower than the detection limit of this method.