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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 45891-2025

**Fertilizers and soil conditioners - Determination of humic and
hydrophobic fulvic acids concentrations in fertilizer materials**

肥料和土壤调理剂 肥料原料中腐植酸和疏水性黄腐酸含量的测定

(English Translation)

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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.

This document is equivalent to ISO 19822:2018 "Fertilizers and soil conditioners - Humic acid and hydrophobic fulvic acid content in fertilizer raw materials" Determination".

The following minimal editorial changes have been made to this document.

- Corrected the chapter and article numbering of the original international document, changing 5.3 and 5.4 of the original document to 5.2 and 5.3;
- Corrected the inconsistency of sieve aperture size, changing 74 μ m to 75 μ m (see 7.21);
- Corrected the inconsistency in the size of the hydrogen ion exchange chromatography column, changing 5cmx50cm to 5cmx60cm (see 14.2.2);
- Increased formula numbers and replaced text with symbols (see Chapter 13).

1 Scope

This document describes the method for the determination of humic acid and hydrophobic fulvic acid.

This document applies to the humic and hydrophobic fulvic acid contents of solid and liquid raw materials in commercial fertilizers, soil conditioners and geological deposits.
Determination of quantity.

2 Normative references

This document has no normative references.

3 Terms and Definitions

The following terms and definitions apply to this document.

The URLs for terminology databases used for standardization maintained by ISO and IEC are as follows.

3.1 Hydrophobic fulvic acid

The sulfur (S) content is less than 0.75%, soluble in alkaline and acidic aqueous solutions and can be absorbed by medium-polar polymers at pH = 1.

Substances adsorbed by the resin. The resin is used to adsorb amphiphilic compounds with a specific fulvic acid molecular weight.

3.2 Contains fulvic acid fraction

Contains fulvic acid components The part of the alkaline extract of humus that is soluble in both alkaline solution and acid solution.

3.3 Humic acid

humicacids; HA Humic base extract is insoluble in strong acidic solution and precipitates in acidic solution with pH=1.

3.4 Humic substance

The main organic components of natural organic matter are formed by biochemical reactions during the decay and transformation of plant and microbial remains. A complex and heterogeneous mixture of carbon-based substances.

3.5 Lignosulfonates

An amorphous, light brown to dark brown powder or liquid obtained from softwood pulping by the sulfite pulping process. Lignin is composed of three aromatic alcohols.

A sulfonated random polymer mainly composed of coniferyl alcohol (coniferyl alcohol, p-coumaryl alcohol and sinapyl alcohol).