

STN P	Organicko-minerálne hnojivá Identifikácia komplexotvorných činidiel Časť 1: Metóda s použitím UV-Vis spektrometrie a gravimetrie	STN P CEN/TS 17784-1 65 5061
------------------	---	--

Organo-mineral fertilizers - Identification of complexing agents - Part 1: Method using UV-Vis spectrophotometry and gravimetry

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 07/22

Táto predbežná slovenská technická norma je určená na overenie. Prípadné pripomienky pošlite do apríla 2024 Úradu pre normalizáciu, metrológiu a skúšobníctvo SR.

Obsahuje: CEN/TS 17784-1:2022

135078

TECHNICAL SPECIFICATION
SPÉCIFICATION TECHNIQUE
TECHNISCHE SPEZIFIKATION

CEN/TS 17784-1

April 2022

ICS 65.080

English Version

Organo-mineral fertilizers - Identification of complexing agents - Part 1: Method using UV-Vis spectrophotometry and gravimetry

Engrais organo-minéraux - Identification des agents complexants - Partie 1 : Méthode utilisant la spectrophotométrie UV-Vis et la gravimétrie

Organisch-mineralische Düngemittel - Identifizierung von Komplexbildnern - Teil 1: Verfahren mittels UV/VIS-Spektralphotometrie und Gravimetrie

This Technical Specification (CEN/TS) was approved by CEN on 21 February 2022 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

CEN/TS 17784-1:2022 (E)

Contents	Page
European foreword	3
Introduction	4
1 Scope.....	5
2 Normative references.....	5
3 Terms and definitions	5
4 Sampling and sample preparation	5
5 Method A: Determination of phenolic hydroxyl content and 232,5 nm absorbance for the identification of lignosulfonates.....	5
5.1 Principle.....	5
5.2 Reagents.....	6
5.3 Apparatus	6
5.4 Procedure	7
5.5 Calculation.....	7
6 Method B: Determination of organic sulfur content for the identification of lignosulfonates	9
6.1 Principle.....	9
6.2 Reagents.....	9
6.3 Apparatus	10
6.4 Procedure	11
6.5 Calculation.....	12
7 Expression of the results	12
7.1 Relative phenolic hydroxyl content	12
7.2 Relative organic sulfur content.....	13
8 Test report.....	13
Bibliography	14

European foreword

This document (CEN/TS 17784-1:2022) has been prepared by Technical Committee CEN/TC 260 “Fertilizers and liming materials”, the secretariat of which is held by DIN.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CEN/TS 17784-1:2022 (E)**Introduction**

Micronutrients are considered to be, in plant nutrition, a number of elements known to be needed in small amounts for proper plant growth and development. The most common are Iron (Fe), Manganese (Mn), Molybdenum (Mo), Copper (Cu), Zinc (Zn) and Boron (B).

If an organo-mineral fertilizer contains a substance, or one of the substances in the mixture, which is intended to enhance the long term availability to plants of micronutrients in the EU fertilizing product, that substance can be either a chelating agent or a complexing agent.

The incorporation of lignosulfonates as complexing agents in organo-mineral fertilizers is intended to enhance the long term availability to plants of micronutrients in such EU fertilizing products.

1 Scope

This document specifies two methods required for the identification of lignosulfonate by UV-Vis spectrophotometry (method A) and gravimetry (method B) in organo-mineral fertilizers.

NOTE Lignosulfonate, as a complexing agent, is a natural polymer produced as a by-product of the sulfite method for manufacturing paper from wood pulp in the paper industry. As a natural polymer, it presents a poorly defined and variable chemical structure. It is an intricate mixture of small- to moderate-sized polymeric compounds with sulfonate groups attached to the molecule, and diverse complexing capacity.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

EN 12944-1, *Fertilizers and liming materials — Vocabulary — Part 1: General terms*

EN 12944-2, *Fertilizers and liming materials — Vocabulary — Part 2: Terms relating to fertilizers*

EN ISO 3696, *Water for analytical laboratory use — Specification and test methods (ISO 3696)*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN