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Straight ammonium nitrate fertilizers - Comparative study on the determination of porosity (oil retention)

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**Straight ammonium nitrate fertilizers - Comparative study
on the determination of porosity (oil retention)**

Engrais simples à base de nitrate d'ammonium - Etude
comparative de méthodes de détermination de la
porosité (rétenzione fuel)

Reine Ammoniumnitratdünger - Bestimmung der
Porosität (Ölretention)

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European foreword

This document (CEN/TR 14539:2021) has been prepared by Technical Committee CEN/TC 260 "Fertilizers and liming materials", the secretariat of which is held by DIN.

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This document supersedes CR 14539:2002.

Significant changes between this document and CR 14539:2002 are as follows:

- a) updated Normative references and Bibliography;
- b) adaption to current principles and rules for structure and drafting.

This document is published for information only and does not have the status of a European Standard.

The Annexes A to D are informative.

Introduction

Straight ammonium nitrate fertilizers of high nitrogen content (> 28 %), following Directive 80/876/EEC [1] and Directive 87/94/EEC [2], are subject to the particular regulatory requirement of a maximum porosity limit of 4 %. The currently used official EC method is demanding with respect to time and skilled laboratory manpower.

Therefore, this document presents a comparison of non-standardized alternative methods for measuring porosity with the official one, through ring testing.

In parallel, oil retention can also be determined using ISO 5313 [4].

1 Scope

This document gives the results of inter-laboratory testing to compare the accuracy and convenience of the official EC method for porosity measurement (given in Annex B) with two non-standardized alternative methods (given in Annexes C and D) already used in some participating laboratories.

Three products, with a porosity between 1 % and 7 %, have been used in the inter-laboratory trials.

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 1235, *Solid fertilizers - Test sieving (ISO 8397)*

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