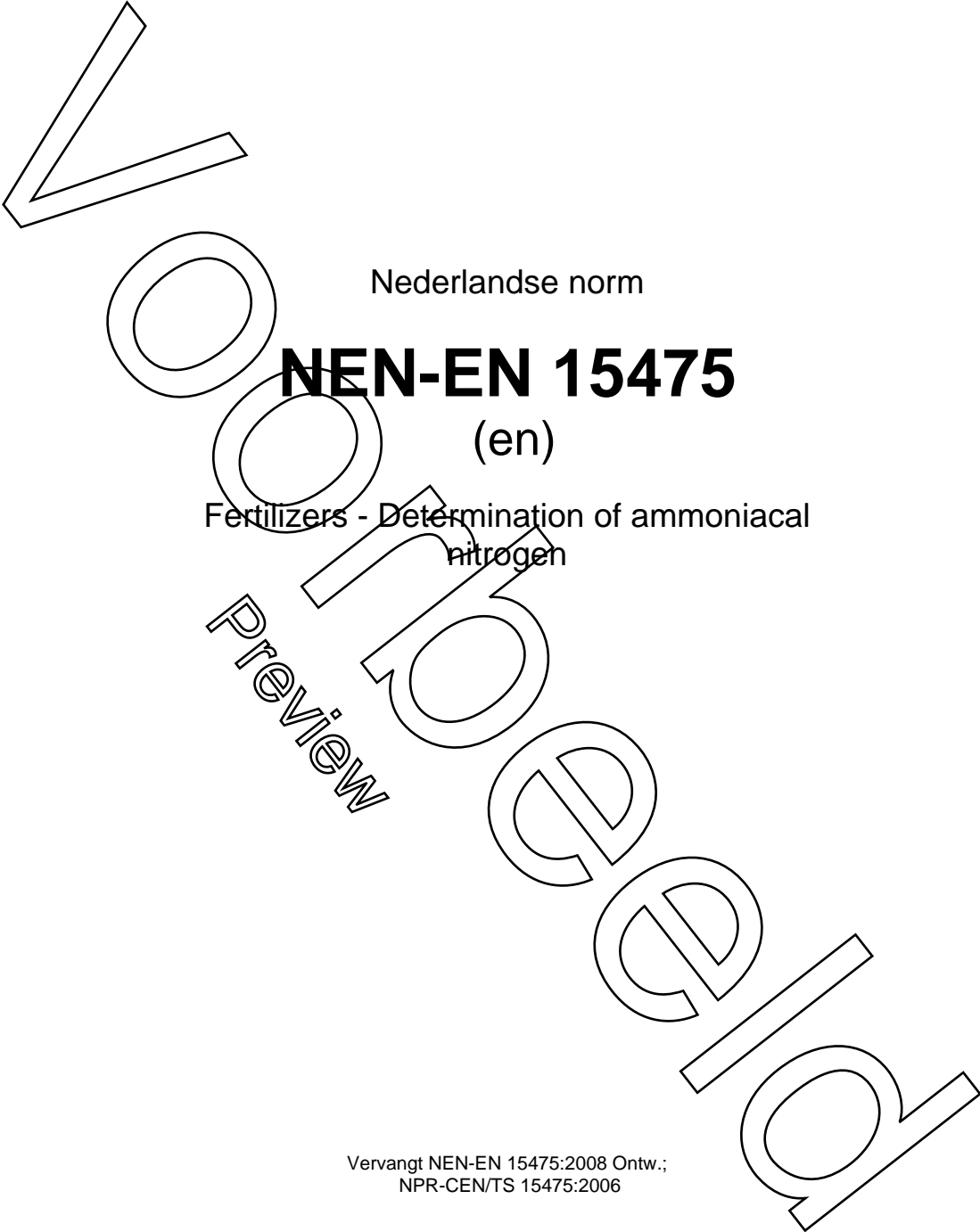


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Nederlandse norm

NEN-EN 15475

(en)

Fertilizers - Determination of ammoniacal nitrogen

Vervangt NEN-EN 15475:2008 Ontw.;
NPR-CEN/TS 15475:2006

ICS 65.080
maart 2009

Als Nederlandse norm is aanvaard:
 - EN 15475:2009, IDT

VOORBEELD
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Normcommissie 370134 "Meststoffen"

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Voor de in deze norm vermelde normatieve verwijzingen bestaan in Nederland de volgende equivalenten:

| <u>vermelde norm</u> | <u>Nederlandse norm</u> | <u>titel</u> |
|----------------------|-------------------------|--|
| EN 1482-2 | NEN-EN 1482-2 | Meststoffen en kalkmeststoffen - Monsterneming en monstervoorbehandeling - Deel 2: Monstervoorbehandeling |
| EN 12944-1:1999 | NEN-EN 12944-1:1999 | Meststoffen en kalkmeststoffen en bodemverbeterende middelen - Woordenlijst - Deel 1: Algemene termen |
| EN 12944-2:1999 | NEN-EN 12944-2:1999 | Meststoffen en kalkmeststoffen en bodemverbeterende middelen - Woordenlijst - Deel 2: Termen gerelateerd aan meststoffen |
| EN ISO 3696:1995 | NEN-EN-ISO 3696:1995 | Water voor analytische laboratoriumdoeleinden - Eisen en beproevingsmethoden |

voorbeeld
Preview

Voorbeeld
Preview

English Version

Fertilizers - Determination of ammoniacal nitrogen

Engrais - Détermination de l'azote ammoniacal

Düngemittel - Bestimmung von Ammoniumstickstoff

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Foreword

This document (EN 15475:2009) has been prepared by Technical Committee CEN/TC 260 "Fertilizers and liming materials", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 2009, and conflicting national standards shall be withdrawn at the latest by July 2009.

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1 Scope

This European Standard specifies a method for the determination of the ammoniacal nitrogen content in fertilizers. The method is applicable to all nitrogenous fertilizers including compound fertilizers, in which nitrogen is found exclusively either in the form of ammonium salts or ammonium salts together with nitrates.

This European Standard is not applicable to fertilizers containing urea, cyanamide or other organic nitrogenous compounds.

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.

EN 1482-2, *Fertilizers and liming materials — Sampling and sample preparation — Part 2: Sample preparation*

EN 12944-1:1999, *Fertilizers and liming materials and soil improvers — Vocabulary — Part 1: General terms*

EN 12944-2:1999, *Fertilizers and liming materials and soil improvers — Vocabulary — Part 2: Terms relating to fertilizers*

EN ISO 3696:1995, *Water for analytical laboratory use — Specification and test methods (ISO 3696:1987)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12944-1:1999 and EN 12944-2:1999 apply.

4 Principle

Displacement of ammonia by means of an excess of sodium hydroxide, distillation and determining the yield of ammonia in a given volume of a standard sulfuric acid and titration of the excess acid by means of a standard solution of sodium or potassium hydroxide.

5 Reagents

5.1 General

Use only reagents of recognized analytical grade and distilled or demineralized water, free from carbon dioxide and all nitrogenous compounds (grade 3 according to EN ISO 3696:1995).

5.2 Diluted hydrochloric acid, mix one volume of $\rho(\text{HCl}) = 1,18 \text{ g/ml}$ with one volume of water.

5.3 Sulfuric acid (for variant a), $c = 0,05 \text{ mol/l}$.

5.4 Sodium or potassium hydroxide solution (for variant a), carbonate free, $c = 0,1 \text{ mol/l}$.

5.5 Sulfuric acid (for variant b, see NOTE in 8.2), $c = 0,1 \text{ mol/l}$.

5.6 Sodium or potassium hydroxide solution (for variant b, see NOTE in 8.2), carbonate free, $c = 0,2 \text{ mol/l}$.

5.7 Sulfuric acid (for variant c, see NOTE in 8.2), $c = 0,25 \text{ mol/l}$.

5.8 Sodium or potassium hydroxide solution (for variant c, see NOTE in 8.2), carbonate free, $c = 0,5 \text{ mol/l}$.

5.9 Sodium hydroxide, 30 %, of approximately $\rho(\text{NaOH}) = 1,33 \text{ g/ml}$, ammonia free.

5.10 Indicator solutions

5.10.1 Mixed indicator

Solution A: Dissolve 1 g of methyl red in 37 ml of sodium hydroxide solution $c = 0,1 \text{ mol/l}$ and make up to 1 l with water.

Solution B: Dissolve 1 g of methylene blue in water and make up to 1 l.

Mix one volume of A with two volumes of B.

This indicator is violet in acid solution, grey in neutral solution and green in alkaline solution. Use 0,5 ml (10 drops) of this indicator solution.

5.10.2 Methyl red indicator solution

Dissolve 0,1 g of methyl red in 50 ml of 95 % ethanol. Make up to 100 ml with water and filter if necessary. This indicator may be used (4 to 5 drops) instead of the preceding one. This indicator is red in acid solution and yellow in alkaline solution.

5.11 Anti-bump granules (i. e. pumice stone, glass pearls), washed in hydrochloric acid and calcined.

5.12 Ammonium sulfate, p. a.

6 Apparatus

6.1 Distillation apparatus

Consisting of a round-bottomed flask of suitable capacity connected to a condenser by means of a splash head. The equipment is made of borosilicate glass.

NOTE The different types of equipment recommended for this determination are reproduced, showing all the features of construction in Figures 1, 2, 3 and 4.

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