

**Väetised. Nitraat- ja ammooniumlämmastiku
määramine Devarda järgi**

Fertilizers - Determination of nitric and ammoniacal
nitrogen according to Devarda

EESTI STANDARDI EESSÕNA

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English Version

**Fertilizers - Determination of nitric and ammoniacal nitrogen
according to Devarda**

Engrais - Détermination de l'azote nitrique et ammoniacal
selon Devarda

Düngemittel - Bestimmung von Nitrat- und
Ammoniumstickstoff nach Devarda

This European Standard was approved by CEN on 30 November 2008.

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Foreword

This document (EN 15476:2009) 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of an identical text or by endorsement, at the latest by July 2009, and conflicting national standards shall be withdrawn at the latest by July 2009.

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

This document supersedes CEN/TS 15476:2006.

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

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1 Scope

This European Standard specifies a method for the determination of nitrate and ammoniacal nitrogen with reduction using Devarda alloy (modified for each of the variants a, b and c).

The method is applicable to all nitrogenous fertilizers, including compound fertilizers, in which nitrogen is found exclusively in nitrate form or in ammoniacal and nitrate form.

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

Reduction of nitrates and nitrites to ammonia in a strongly alkaline solution by means of a metallic alloy composed of 45 % Al, 5 % Zn and 50 % Cu (Devarda alloy). Distillation of the ammonia and determination of the yield in a known volume of standard sulfuric acid; titration of the excess sulfuric 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 2 in 8.4), $c = 0,1 \text{ mol/l}$.