

ICS 65.080

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

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Foreword

This document (CEN/TS 15476:2006) has been prepared by Technical Committee CEN/TC 260 "Fertilizers and liming materials", the secretariat of which is held by DIN.

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 Technical Specification 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.

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

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

EN 12944-2:1999, *Fertilizers and liming materials — Vocabulary — Part 2: Terms relating to fertilizers (including corrigendum AC:2000)*

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

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)

$c = 0,05 \text{ mol/l}$