
**Fertilizers — Determination of
ammoniacal nitrogen**

Engrais — Détermination de l'azote ammoniacal

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

ISO 25475 was prepared by CEN/TC 260 as EN 15475:2009 and was adopted (without modification other than those stipulated below) by Technical Committee ISO/TC 134, *Fertilizers and soil conditioners*.

Modifications were made in the following subclauses:

- a) General: The references to EN 1482-1 and -2 were changed to ISO 14820-1 and -2;
- b) [5.9](#): added “mass fraction”;
- c) [5.12](#): p.a. = pro analysis = analytical grade;
- d) [6.1](#): First two sentences joined together.
- e) [6.4](#): “35 to 40 revolutions per minute” was changed to “35 r/min to 40 r/min”;
- f) [8.1](#): “Filter through a filter into a 500 ml graduated flask and make up to the volume with water” was changed to “Pass the solution through a filter into a 500 ml graduated flask and make up to the volume with water”;
- g) [8.2](#), [Table 3](#): “ F = factor comprising the amount weighed, the dilution, the aliquot part of solution of the sample to be distilled and the volumetric equivalent. expressed as percentage of ammoniacal nitrogen in the fertilizer” was changed to “ F = factor comprising the amount weighed, the dilution, the aliquot part of the solution of the sample to be distilled and the volumetric equivalent”.
- h) [10.1](#) Line 1: “Test was carried out in 2004 with 24, respectively 22 participating labs” was changed to “A test was carried out in 2004 with 24 participating labs”;
- i) Bibliography: Reference [3] was removed.

Fertilizers — Determination of ammoniacal nitrogen

1 Scope

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

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

ISO 14820-2, *Fertilizers and liming materials — Sampling and sample preparation — Part 2: Sample preparation*

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*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12944-1 and EN 12944-2 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 ISO 3696).

5.2 Hydrochloric acid, diluted. 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), $c = 0,1 \text{ mol/l}$.