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BSI Standards Publication

Inorganic fertilizers — Determination of pH of a solution of ammonium nitrate fertilizers of high nitrogen content

National foreword

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Inorganic fertilizers - Determination of pH of a solution of ammonium nitrate fertilizers of high nitrogen content

Engrais inorganiques - Détermination du pH d'une solution d'engrais à base de nitrate d'ammonium à forte teneur en azote

Anorganische Düngemittel - Bestimmung des pH-Wertes in einer Lösung mit Ammoniumnitratdüngemitteln mit hohem Stickstoffgehalt

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European foreword

This document (CEN/TS 17759:2022) 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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1 Scope

This document specifies a method for the determination of pH of a solution of ammonium nitrate fertilizer of high nitrogen content.

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 1482-2, *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.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at https://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp

4 Principle

The measurement of the pH of an ammonium nitrate solution is carried out by means of a pH meter.

5 Reagents

Use only reagents of recognized analytical grade.

5.1 Distilled or demineralized water, free from carbon dioxide.

5.2 Buffer solution A, pH 6,88 at 20 °C or buffer solution B pH 4,00 at 20 °C.

For buffer solution A, dissolve 3,40 g ± 0,01 g of potassium dihydrogen phosphate (KH_2PO_4) in approximately 400 ml of water. Then dissolve 3,55 g ± 0,01 g of disodium hydrogen phosphate (Na_2HPO_4) in approximately 400 ml of water (5.1). Transfer the two solutions without loss into a 1 000-ml graduated flask (6.2), fill up to the mark and mix.

Keep this solution in an airtight vessel.

For buffer solution B, dissolve 10,21 g ± 0,01 g of potassium hydrogen phthalate ($KHC_8O_4H_4$) in water (5.1), transfer without loss into a 1 000-ml graduated flask (6.2), fill up to the mark and mix.

Keep this solution in an airtight vessel.

Alternatively, commercially available pH standard solutions may be used.