
International Standard



5313

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High nitrogen content, straight ammonium nitrate fertilizers — Determination of oil retention

Engrais simples à base de nitrate d'ammonium et à forte teneur en azote — Détermination de la rétention d'huile

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Foreword

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International Standard ISO 5313 was prepared by Technical Committee ISO/TC 134, *Fertilizers and soil conditioners*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

High nitrogen content, straight ammonium nitrate fertilizers — Determination of oil retention

0 Introduction

The porosity of a high nitrogen content, straight ammonium nitrate fertilizer can be measured by means of the determination of the gas oil retention, called by convention oil retention.

The method specified in this International Standard is an empirical method, requiring the minimum of apparatus, and gives results with an acceptable level of reproducibility.

1 Scope and field of application

This International Standard specifies a method for the determination of the gas oil retention of solid, high nitrogen content, straight ammonium nitrate fertilizers.

The method is applicable to fertilizers which do not contain materials soluble in gas oil and which are prilled or granular.

2 References

ISO 3310/1, *Test sieves — Technical requirements and testing — Part 1: Test sieves of metal wire cloth*.

ISO 8358, *Fertilizers — Preparation of samples for analysis*.¹⁾

3 Definition

oil retention of a high nitrogen content, straight ammonium nitrate fertilizer: The quantity of gas oil retained by the fertilizer determined under the conditions specified.

It is expressed as a percentage by mass.

4 Principle

Total immersion of a test portion in gas oil for a specified period, followed by the draining away and the removal of surplus gas oil under specified conditions. Measurement of the increase in mass of the test portion.

5 Reagent

Gas oil

Viscosity: 1,3 to 5,0 mPa·s (1,6 to 6,0 cSt) at 40 °C

Density: 0,82 to 0,86 g/ml at 15 °C

Sulfur content $\leq 1,0$ % (m/m)

Ash $\leq 0,1$ % (m/m)

The density of the gas oil shall be mentioned in the test report.

6 Apparatus

Ordinary laboratory apparatus, and

6.1 Balance, capable of weighing to the nearest 0,01 g.

6.2 Beaker, of capacity 500 ml.

6.3 Funnel, of plastics material, preferably with a cylindrical wall at the upper end, diameter approximately 200 mm.

6.4 Test sieve, complying with ISO 3310/1, aperture size 0,5 mm, fitting into the funnel (6.3).

6.5 Filter paper, rapid filtering grade, crêped, soft, of surface density 150 g/m².

7 Preparation of test sample

Prepare the test sample in accordance with ISO 8358.

8 Procedure

8.1 Sieve the test sample using the test sieve (6.4) to remove particles less than 0,5 mm. Weigh, to the nearest 0,01 g, approximately 50 g of the sieved test sample into the beaker (6.2).

1) At present at the stage of draft.