INTERNATIONAL STANDARD 2994

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Ammonium sulphate for industrial use — Determination of matter insoluble in water — Gravimetric method

Sulfate d'ammonium à usage industriel — Détermination des matières insolubles dans l'eau — Méthode gravimétrique

First edition — 1974-04-01

UDC 661.522 : 541.8

Ref. No. ISO 2994-1974 (E)

Descriptors : ammonium compounds, ammonium sulphate, chemical analysis, determination of content, insoluble matter, gravimetric analysis.

Price based on 2 pages

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 2994 was drawn up by Technical Committee ISO/TC 47, *Chemistry,* and circulated to the Member Bodies in November 1972.

It has been approved by the Member Bodies of the following countries :

Australia	India	Spain
Austria	Israel	Sweden
Belgium	Italy	Switzerland
Czechoslovakia	Netherlands	Thailand
Egypt, Arab Rep. of	New Zealand	Turkey
France	Poland	United Kingdom
Germany	Romania	U.S.S.R.
Hungary	South Africa, Rep. of	

This International Standard has also been approved by the International Union of Pure and Applied Chemistry (IUPAC).

No Member Body expressed disapproval of the document.

Printed in Switzerland

Ammonium sulphate for industrial use — Determination of matter insoluble in water — Gravimetric method

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a gravimetric method for the determination of matter insoluble in water in ammonium sulphate for industrial use.

2 PRINCIPLE

Dissolution of a test portion in water, filtration, drying and weighing of the insoluble matter.

3 REAGENTS

Distilled water, or water of equivalent purity, shall be used in the test.

4 APPARATUS

Ordinary laboratory apparatus and

4.1 Filter crucible, approximately 30 ml capacity with a porous plate 30 mm in diameter, porosity grade P10 or P16 (pore size index 4 to 16 μm).

5 PROCEDURE

5.1 Test portion

Weigh, to the nearest 0,1 g, about 100 g of the test sample.

5.2 Preparation of the test solution

Place the test portion (5.1) in a 1 000 ml beaker and dissolve it in about 500 ml of water, maintaining the temperature between 20 and 25 °C.

5.3 Filtration and determination of insoluble matter

Filter the test solution (5.2), under vacuum, on the filter crucible (4.1), previously dried at 110 ± 5 °C to constant mass and weighed to the nearest 0,000 1 g.

Thoroughly wash the crucible and the beaker with water. Ensure the absence of sulphates in the last portions of the wash water by a barium chloride test and then dry the crucible and its contents in an oven at 110 ± 5 °C for 1 h. Cool in a desiccator and weigh to the nearest 0,000 1 g. Repeat the operations of drying, cooling and weighing until two consecutive weighings do not differ by more than 0,001 g.

6 EXPRESSION OF RESULTS

Matter insoluble in water, as a percentage by mass, is given by the formula

$$\frac{m_1}{m_0} \times 100$$

where

m_0 is the mass, in grams, of the test portion;

m_1 is the mass, in grams, of the insoluble matter.

7 TEST REPORT

The test report shall include the following particulars :

a) the reference of the method used;

b) the results and the method of expression used;

c) any unusual features noted during the determination;

d) any operation not included in this International Standard, or regarded as optional.

ANNEX

This document forms part of the following series on methods of test for ammonium sulphate for industrial use :

ISO 2992 – *Determination of iron content – 2,2'-bipyridyl photometric method.*

ISO 2993 – *Determination of free acidity – Titrimetric method.*

ISO 2994 – *Determination of matter insoluble in water – Gravimetric method.*

ISO 3332 – *Determination of ammoniacal nitrogen content – Volumetric method after distillation.*[1)]

ISO 3333 – *Determination of copper content – Zinc dibenzyldithiocarbamate photometric method.*[1)]

1) At present at the stage of draft.