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International Standard ISO 7109

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Ammonia solution for industrial use — Determination of residue after evaporation at 105 °C — Gravimetric method

Ammoniaque à usage industriel — Détermination du résidu après évaporation à 105 °C *— Méthode gravimétrique*

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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.

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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

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INTERNATIONAL STANDARD ISO 7109-1985 (E)

Ammonia solution for industrial use — Determination of residue after evaporation at 105 °C — Gravimetric method

WARNING — Carry out all the operations in a well-ventilated fume cupboard.

1 Scope and field of application

This International Standard specifies a gravimetric method for the determination of the residue after evaporation of ammonia solution for industrial use.

The method is applicable to solutions containing not more than 35 % (m/m) of ammonia.

2 Reference

ISO 758, *Liquid chemical products for industrial use — Determination of density at* 20 °C.

3 Principle

Evaporation of a test portion in a tared platinum dish; weighing of the residue after drying at 105 ± 2 °C.

4 Apparatus

Ordinary laboratory apparatus and

4.1 Platinum dish, diameter about 75 mm.

4.2 Electric oven, capable of being maintained at 105 ± 2 °C.

5 Procedure

5.1 Test portion

Fill a 500 ml one-mark volumetric flask to the mark with some of the laboratory sample.

5.2 Determination

Weigh, to the nearest 0,000 1 g, the platinum dish (4.1) previously dried at 105 ± 2 °C and cooled in a desiccator. Pour some of the test portion (5.1) into the weighed platinum dish, and place on a bath of boiling water in a well-ventilated fume cupboard. Carefully evaporate the solution, gradually adding more of the test portion, until the test portion has evaporated to a volume of about 40 ml. Wash the volumetric flask with two 10 ml portions of distilled water and add the washings to the dish. Continue the operation until all liquid has completely evaporated.

Remove the dish from the water bath and place it in the electric oven (4.2) maintained at 105 ± 2 °C, for at least 30 min. Allow the dish containing the residue to cool in a desiccator and weigh to the nearest 0,000 1 g.

6 Expression of results

The residue after evaporation, expressed in milligrams per kilogram, is given by the formula

$$\frac{m_1 - m_0}{V\varrho} \times 10^6$$

where

m_0 is the mass, in grams, of the empty platinum dish;

m_1 is the mass, in grams, of the platinum dish and residue;

V is the volume, in millilitres, of the test portion (5.1);

ϱ is the density, in grams per millilitre, of the test sample, determined in accordance with the method specified in ISO 758.

7 Test report

The test report shall include the following particulars:

a) an identification of the sample;

b) the reference of the method used;

c) the results and the method of expression used;

d) any unusual features noted during the determination;

e) any operation not included in this International Standard or in the International Standard to which reference is made, or regarded as optional.