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Potassium sulphate for industrial use — Determination of loss of mass at 105 °C

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FOREWORD

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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 2850 was drawn up by Technical Committee ISO/TC 47, *Chemistry,* and circulated to the Member Bodies in June 1972.

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

Austria	Ireland	Romania
Belgium	Italy	South Africa, Rep. of
Czechoslovakia	Morocco	Switzerland
France	Netherlands	Thailand
Germany	New Zealand	Turkey
Hungary	Poland	United Kingdom
India	Portugal	U.S.S.R.

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.

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Potassium sulphate for industrial use — Determination of loss of mass at 105 °C

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination of loss of mass at 105 °C (conventional moisture) of potassium sulphate for industrial use.

2 PRINCIPLE

Drying in a oven of a test portion at 105 ± 2 °C for 1 h.

3 APPARATUS

Ordinary laboratory apparatus and

3.1 Weighing bottle, approximately 6 cm in diameter, with ground glass lid.

3.2 Electric oven with natural draught, capable of being controlled at 105 ± 2 °C fitted with a thermometer so located that its bulb is near the weighing bottle used during the test. The readings of this thermometer are used to regulate the oven heat and bring it to the desired temperature.

Before commencing any test ascertain, by means of the thermometer, the difference between the maximum and minimum temperature of the oven during operation. These temperatures correspond approximately to the automatic switching on and off of the oven heater. If this difference is more than 4 °C, the oven is unsuitable for the determination.

3.3 Desiccator, containing silica gel.

4 PREPARATION OF THE TEST SAMPLE

The loss of mass shall be determined on the unground product, as it is delivered. It is sufficient to divide the sample roughly using a spatula.

5 PROCEDURE

5.1 Test portion

Place in the weighing bottle (3.1) previously dried at 105 ± 2 °C, cooled in a desiccator and weighed to the nearest 1 mg, a sufficient quantity of the test sample (4) to cover the bottom to a uniform depth of approximately 5 mm. Weigh the closed bottle and its contents to the nearest 1 mg.

5.2 Determination

Heat the oven (3.2) to 105 ± 2 °C. In the oven place the weighing bottle containing the test portion (5.1), its lid placed aslant, and a watch glass, the diameter of which is slightly larger than that of the weighing bottle. The interval between the oven door being closed and the point at which the temperature reaches 105 °C again must not exceed 10 min. Leave at 105 ± 2 °C for 1 h exactly from the moment that the oven temperature regains 105 ± 2 °C.

Replace the lid with the watch glass and place all in the desiccator (3.3) and allow to cool for 1 h. Close the weighing bottle with its lid and reweigh to the nearest 1 mg.

6 EXPRESSION OF RESULTS

The loss of mass at 105 °C expressed as a percentage by mass, is given by the formula

$$(m_1 - m_2) \times \frac{100}{m_1 - m_0}$$

where

m_0 is the mass, in grams, of the weighing bottle and its lid;

m_1 is the mass, in grams, of the weighing bottle and its lid containing the test portion before drying;

m_2 is the mass, in grams, of the weighing bottle and its lid containing the test portion after drying.

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.