INTERNATIONAL STANDARD 2053

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Potassium chloride for industrial use — Determination of moisture content — Gravimetric method

Chlorure de potassium à usage industriel — Détermination de l'humidité — Méthode gravimétrique

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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.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 47 has reviewed ISO Recommendation R 2053 and found it technically suitable for transformation. International Standard ISO 2053 therefore replaces ISO Recommendation R 2053-1971 to which it is technically identical.

ISO Recommendation R 2053 was approved by the Member Bodies of the following countries :

Austria	India	South Africa, Rep. of
Belgium	Iran	Spain
Chile	Israel	Switzerland
Czechoslovakia	Italy	Thailand
Egypt, Arab Rep. of	Korea, Rep. of	United Kingdom
France	Netherlands	U.S.A.
Germany	New Zealand	U.S.S.R.
Greece	Poland	
Hungary	Portugal	

No Member Body expressed disapproval of the Recommendation.

No Member Body disapproved the transformation of ISO/R 2053 into an International Standard.

Printed in Switzerland

Potassium chloride for industrial use — Determination of moisture content — Gravimetric method

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a gravimetric method for the determination of the moisture content of potassium chloride for industrial use, i.e. of a product with a minimum KCl content of about 95 % (*m/m*). This limit, conventionally expressed as K_2O, corresponds to about 60 % (*m/m*).

2 PRINCIPLE

Drying of a test portion to constant mass in an oven at 105 ± 2 °C.

3 APPARATUS

Ordinary laboratory apparatus and

3.1 Weighing bottle, with ground glass stopper, squat-form, of diameter about 80 mm and height about 40 mm.

3.2 Electric oven, capable of being controlled at 105 ± 2 °C.

3.3 Desiccator, filled with an appropriate desiccant (for example : silica gel, phosphorus(V) oxide, etc.).

4 PROCEDURE

4.1 Preparation of the sample

The moisture content shall be determined on the product as received, i.e. unground. It is therefore sufficient to carry out a rough division, taking the necessary precautions to avoid any loss or pick-up of water from the atmosphere.

4.2 Test portion

Weigh, to the nearest 0,001 g, about 25 g of the sample (4.1) in the weighing bottle (3.1) previously dried at 105 ± 2 °C, cooled in the desiccator (3.3) and weighed to the nearest 0,000 1 g.

4.3 Determination

Place the open weighing bottle containing the test portion (4.2), together with the stopper and a watch-glass of diameter slightly greater than that of the weighing bottle, in the oven (3.2) controlled at 105 ± 2 °C. Allow to remain until the mass is constant. Carry out several weighing operations at regular intervals, taking the precaution before each weighing to cover the weighing bottle with the watch-glass and to allow the whole to cool to ambient temperature in the desiccator (3.3). Replace the watch-glass by the ground glass stopper, and weigh to the nearest 0,000 1 g. The results of two consecutive weighing operations carried out at an interval of about 1 h shall not show a difference of more than 0,002 g.

5 EXPRESSION OF RESULTS

The moisture content is given, as a percentage by mass, by the formula :

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

where

m_0 is the mass, in grams, of the test portion (4.2);

m_1 is the mass, in grams, of the weighing bottle with stopper and the test portion before drying;

m_2 is the mass, in grams, of the weighing bottle with stopper and the test portion after drying.

Take as the result the mean of at least two determinations.

Express the results to two decimal places in the case of a moisture content lower than 0,10 % and to one decimal place for higher results.

6 TEST REPORT

The rest 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 operations not included in this International Standard, or regarded as optional.