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Sodium chloride for industrial use — Determination of the loss of mass at 110 °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 2483 was drawn up by Technical Committee ISO/TC 47, *Chemistry*.

It was approved in January 1972 by the Member Bodies of the following countries :

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

No Member Body expressed disapproval of the document.

Sodium chloride for industrial use — Determination of the loss of mass at 110 °C

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination of the loss of mass at 110 °C (conventional moisture) of sodium chloride for industrial use.

2 PRINCIPLE

Drying in an oven at 110 ± 2 °C to constant mass.

3 APPARATUS

Ordinary laboratory apparatus and

3.1 Weighing bottle, squat type (approximate dimensions 50 mm in diameter and 25 mm high), with ground glass lid.

3.2 Electric oven, with natural draught, capable of being controlled at 110 ± 2 °C.

NOTE — Check this temperature with a thermometer mounted so that the bulb is in close proximity to the weighing bottle used during a test.

3.3 Desiccator, containing silica gel phosphorus pentoxide or a molecular sieve.

4 SAMPLING AND SAMPLES

For methods of sampling and the number of samples to be taken for a given quantity of product, the procedure specified in ISO ...¹⁾ shall be followed.

5 PROCEDURE

5.1 Test portion

Weigh, to the nearest 1 mg, about 10 g of the test sample in the weighing bottle (3.1), previously dried at 110 ± 2 °C, cooled in the desiccator (3.3) and weighed to the nearest 0,1 mg.

NOTE — If the loss in mass at 110 °C is lower than 0,01 % (m/m), corresponding to a difference in mass ($m_1 - m_2$) of less than 1 mg, take a 50 g test portion and use a weighing bottle of such a size as to allow as thin a layer as possible to be obtained.

5.2 Determination

Control the temperature of the oven (3.2) at 110 ± 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. After drying the salt, replace the lid with the watch glass and place all in the desiccator (3.3). After cooling, close the weighing bottle with its lid and reweigh to the nearest 0,1 mg. Repeat the above procedure several times until the mass remains constant, i.e. until two consecutive weighings carried out at an interval of about 1 h do not differ by more than 0,2 mg.

6 EXPRESSION OF RESULTS

6.1 Method of calculation and formula

The loss of mass at 110 °C, expressed as a percentage by mass, is given by the formula :

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

where

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

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

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

6.2 Repeatability and reproducibility

Comparative analyses on two samples in nineteen laboratories have given the following statistical results :

		Evaporated salt	Marine salt
Mean (percentage by mass)		0,022	1,21
Standard deviation	for repeatability (σ_r)	0,002	0,04
	for reproducibility (σ_R)	0,007	0,15

1) In preparation.