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Sodium chlorate for industrial use — Determination of matter insoluble in water

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FOREWORD

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

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

No Member Body expressed disapproval of the document.

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Sodium chlorate for industrial use — Determination of matter insoluble in water

1 SCOPE

This International Standard specifies a method for the determination of matter insoluble in water, in sodium chlorate for industrial use.

2 FIELD OF APPLICATION

The method is applicable to the analysis of products with a content greater than 0,01 % (*m/m*) of matter insoluble in water. The method is not applicable to the analysis of mixtures based on sodium chlorate, such as herbicides, insecticides, etc.

3 PRINCIPLE

Dissolution of a test portion in water. Filtration of the resultant solution through a filter crucible. Washing, drying and weighing of the residue.

4 REAGENT

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

5 APPARATUS

Ordinary laboratory apparatus and

5.1 Conical flask, capacity 250 ml, with ground glass stopper.

5.2 Filter crucible, of sintered glass, of porosity grade P 40 (i.e. pore size between 16 and 40 μm).

5.3 Electric oven, capable of being controlled at $105 \pm 2^\circ\text{C}$. Check this temperature by means of a thermometer placed so that its bulb is close to the filter crucible used during the test.

6 PROCEDURE

6.1 Warning

Sodium chlorate induces combustion. Avoid storage or handling close to a source of heat. Avoid all contact of the salt or its solutions with combustible materials (clothes, wood, straw, rags, fatty substances, etc.) which are likely to catch fire or give rise to an explosive mixture. Wash copiously with water any materials accidentally impregnated with sodium chlorate.

6.2 Test portion

Weigh, to the nearest 0,1 g, about 20 g of the test sample.

6.3 Determination

Weigh the filter crucible (5.2) after leaving it in the oven (5.3) controlled at $105 \pm 2^\circ\text{C}$ for 30 min and cooling it in a desiccator.

Transfer the test portion (6.2) to the conical flask (5.1), add 200 ml of water, insert the stopper and shake for 10 min.

Filter under vacuum through the filter crucible, previously weighed; wash the insoluble matter on the filter four times, using 25 ml of water each time and taking care to suck the filter dry after each washing.

Dry the filter in the oven (5.3) controlled at $105 \pm 2^\circ\text{C}$ for 1 h, allow to cool in a desiccator and weigh.

7 EXPRESSION OF RESULTS

Matter insoluble in water 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 (6.2);

m_1 is the mass, in grams, of the filter crucible and the dry insoluble matter;

m_2 is the mass, in grams, of the filter crucible (5.2);

Express the result to two places of decimals.

8 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.