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Sodium chloride for industrial use — Determination of matter insoluble in water or in acid and preparation of principal solutions for other determinations

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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	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	
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India	Romania	

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Sodium chloride for industrial use – Determination of matter insoluble in water or in acid and preparation of principal solutions for other determinations

1 SCOPE

This International Standard specifies a method for determining insoluble matter in sodium chloride for industrial use.

It also describes the preparation of principal solutions for other determinations.

NOTE – Sodium chloride for industrial use may contain components that are only very slightly soluble or dissolve very slowly in water. Insoluble substances in sodium chloride for industrial use shall therefore be defined by the conditions of determination described in this International Standard. These conditions reproduce those normally used during the handling of salt for industrial use. The object is not to dissolve all the impurities but only those of interest to users.

2 FIELD OF APPLICATION

2.1 General case

The method is applicable to the analysis of sodium chloride for industrial use, carried out in aqueous solution.

2.2 Special case

Determination of insoluble matter in an acid medium.

NOTE – Whatever the conditions adopted, all related determinations shall be carried out in the same medium, except the determination of chlorides which shall always be carried out in an aqueous solution.

3 PRINCIPLE

Solution of a test portion in water. Filtration, drying and weighing of the insoluble residue.

Dilution of the filtrate to form the principal solution (solution A) for carrying out other determinations.

4 REAGENT

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

4.1 Silver nitrate, 5 g/l nitric solution.

Dissolve 0,5 g of silver nitrate in a little water, add 10 ml of nitric acid solution ρ 1,40 g/ml approximately, and dilute to 100 ml.

1) In preparation.

5 APPARATUS

Ordinary laboratory apparatus and

5.1 Filter crucible or funnel, glass or porcelain, approximately 30 mm diameter and of a porosity grade P 10 or P 16 (pore size index 4-16 μm).

5.2 Electric oven, ventilated by convection and capable of being controlled at $110 \pm 2^\circ\text{C}$.

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

6 SAMPLING AND SAMPLES

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

7 PROCEDURE

7.1 Test portion

Weigh, to the nearest 0,01 g, approximately 100 g of the test sample.

7.2 Determination

Place the test portion (7.1) in a 600 ml beaker and add 350 ml of water. Heat at just below boiling for 10 min, with stirring, and then transfer the beaker, covered with a watch glass, to a boiling water bath for 30 min. Cool to approximately 20°C .

Filter by vacuum on the filter crucible (5.1), previously dried at 110°C , cooled in the desiccator (5.3), and weighed to the nearest 0,1 mg.

Then wash the insoluble matter, in groups of five successive washings, using 20 ml of water each time, disconnecting the vacuum after each washing in order to bring the insoluble matter into suspension for approximately 1 min before filtering, and checking for absence of chloride from the filtrate after the fifth, tenth or fifteenth washing. 10 ml of the washing water shall remain clear 5 min after adding 10 ml of the nitric silver nitrate solution (4.1). Cease washing as soon as the check indicates absence of chlorides.