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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 740

SODIUM CARBONATE FOR INDUSTRIAL USE

DETERMINATION OF TOTAL SOLUBLE ALKALINITY

VOLUMETRIC METHOD

1st EDITION

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Also issued in French and Russian. Copies to be obtained through the national standards organizations.

BRIEF HISTORY

The ISO Recommendation R 740, *Sodium carbonate for industrial use – Determination of total soluble alkalinity – Volumetric method,* was drawn up by Technical Committee ISO/TC 47, *Chemistry,* the Secretariat of which is held by the Ente Nazionale Italiano di Unificazione (UNI).

Work on this question by the Technical Committee began in 1951 and led, in 1956, to the adoption of a Draft ISO Recommendation.

In June 1966, this Draft ISO Recommendation (No. 1006) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Argentina	Italy	Switzerland
Austria	Japan	Turkey
Belgium	Korea, Rep. of	U.A.R.
Brazil	Netherlands	United Kingdom
Chile	New Zealand	U.S.A.
Czechoslovakia	Poland	U.S.S.R.
France	Portugal	Yugoslavia
Germany	Romania	
Hungary	South Africa, Rep. of	
India	Spain	
Israel		

No Member Body opposed the approval of the Draft.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in May 1968, to accept it as an ISO RECOMMENDATION.

ISO Recommendation R 740 May 1968

SODIUM CARBONATE FOR INDUSTRIAL USE

DETERMINATION OF TOTAL SOLUBLE ALKALINITY

VOLUMETRIC METHOD

1. SCOPE

This ISO Recommendation describes a volumetric method for the determination of total soluble alkalinity of sodium carbonate for industrial use.

2. PRINCIPLE

Solution of the test portion, filtration of the solution and titration of the total soluble alkalinity with N hydrochloric acid, using methyl orange as indicator.

NOTE. – If required, this determination may also be carried out by means of back titration using N hydrochloric acid standard volumetric solution and N or 0.1 N sodium hydroxide standard volumetric solution.

3. REAGENTS

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

3.1 *Hydrochloric acid,* N standard volumetric solution (see Note on section 6).

3.2 *Methyl orange,* 0.5 g/l solution. Dissolve 0.05 g of methyl orange in water and dilute to 100 ml.

NOTE. – The methyl orange may be replaced by any other indicator giving the same end point.

4. APPARATUS

Ordinary laboratory apparatus.

5. PROCEDURE

5.1 Test portion

Weigh to the nearest 0.01 g, a mass of the test sample * of 50 ± 0.1 g, 59 ± 0.1 g, 110 ± 0.1 g or 135 ± 0.1 g depending on whether the product is anhydrous or mono-, hepta- or decahydrate.

* See clause 2.2 of ISO Recommendation R 739, *Sodium carbonate for industrial use – Preparation and storage of test samples.*