INTERNATIONAL STANDARD 2199

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Sodium hydrogen carbonate for industrial use — Determination of sodium hydrogen carbonate content — Titrimetric method

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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 2199 was drawn up by Technical Committee ISO/TC 47, *Chemistry.*

It was approved in May 1971 by the Member Bodies of the following countries:

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

No Member Body expressed disapproval of the document.

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Sodium hydrogen carbonate for industrial use — Determination of sodium hydrogen carbonate content — Titrimetric method

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination of the sodium hydrogen carbonate content of sodium hydrogen carbonate for industrial use.

2 REFERENCE

ISO 2198, *Sodium hydrogen carbonate for industrial use — Determination of sodium carbonate — Titrimetric method.* (At present at the stage of Draft.)

3 PRINCIPLE

Titration of the total alkalinity by means of N hydrochloric acid solution, in the presence of methyl orange.

Calculation of the sodium hydrogen carbonate content after subtracting the alkalinity corresponding to the sodium carbonate.

4 REAGENTS

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

4.1 Hydrochloric acid, N standard volumetric solution.

4.2 Methyl orange, 0.5 g/l solution.

5 APPARATUS

Ordinary laboratory apparatus and

5.1 Burette, capacity 50 ml, graduated in 0.1 ml, with tapered point (30 drops/millilitre).

6 PROCEDURE

6.1 Test portion

Weigh, to the nearest 0.1 mg, 4 ± 0.1 g of the test sample.

6.2 Determination

Place the test portion (6.1) in a 500 ml conical flask and dissolve it with the aid of 100 ml of water. Add five drops of the methyl orange solution (4.2) then titrate with the standard volumetric hydrochloric acid solution (4.1) contained in the burette (5.1), until the indicator changes colour from yellow to pinkish orange.

7 EXPRESSION OF RESULTS

The sodium hydrogen carbonate content is given, as a percentage by mass, by the formula :

$$\left(V \times \frac{100}{m} \times 0.084 \right) - 1{,}585\,A$$

where

V is the volume, in millilitres, of the standard volumetric hydrochloric acid solution (4.1) used for the titration;

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

A is the sodium carbonate content, expressed as percentage by mass, determined as described in ISO 2198;

1.585 is the conversion factor from Na_2CO_3 to $NaHCO_3$.

Express the result to one decimal place.

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.

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