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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 210.2-2004

**Specification and determination methods of sodium carbonate
for industrial use -- Part 2: Specification and determination
methods**

(English Translation)

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Foreword

This national standard Specification and determination methods of sodium carbonate for industrial use is divided into two parts.

- Part 1.Sodium carbonate for industrial use;
- Part 2.Specification and determination methods.

This Part is Part 2 of the Specification and determination methods of sodium carbonate for industrial use.

This Part modifies and adopts the British Standard BS 6070.1981 Methods of test for sodium carbonate for industrial use (EN); and it is redrafted according to the British Standard BS 6070.1981 Methods of test for sodium carbonate for industrial use.

Taking China's national situation into consideration, this Part makes some modifications when using the British Standard. The relevant technical differences have been compiled into the text, and have been indicated via the vertical single lines drawn in the margin positions of their involved clauses. The list of these technical and structural differences and corresponding reasons have been given in Appendixes A and B for reference.

This Part replaces the national standard GB 210-1992 Sodium carbonate for industrial use along with GB 210.1.

Compared with GB 210-1992, the technical changes of this Part are as follows.

- LIST the method for determining water insoluble substances by using a

Gooch crucible covered with asbestos paper in parallel. USE the method for determining water insoluble substances by using a Gooch crucible covered with acid-washed asbestos for arbitration.

The Appendixes A and B of this Part are informative appendixes.

This Part was proposed by the original State Bureau of Petroleum and Chemical Industries.

This Part shall be under the jurisdiction of the Subcommittee of Inorganic Chemical Industry of the National Technical Committee for Standardization of Chemistry (SAC/TC 63/SC1).

Drafting organizations of this Part. Tianjin Chemical Research & Design Institute, Tianjin Soda Plant (now known as Tianjin Bohua Yongli Chemical Industry Co., Ltd), Dahua Group Co., Ltd, Hangzhou Longshan Chemical Co., Ltd, Soda Ash Plant of Shandong Haihua Group Co., Ltd, Sonid Branch of Inner Mongolia Mengxilian Co., Ltd, Hubei Shuanghuan Chemical Industry Group Co., Ltd, Sichuan Zigong Honghe Chemical Industry Co., Ltd, Qingdao Soda Ash Industrial Co., Ltd, Tangshan Sanyou Group Co., Ltd, and Xinjiang Hami Shuanghe Soda Ash Industrial Co., Ltd.

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This Part was first-time released in 1963, and was respectively revised in 1980,

1989 and 1992.

Specification and determination methods of sodium carbonate for industrial use -

Part 2.Specification and determination methods

1 Scope

This Standard specifies the specification and determination methods of sodium carbonate for industrial use.

This Standard is applicable to the sodium carbonate for industrial use produced by using industrial salt or trona as raw material through Solvay process, Hou's process for soda manufacture or other methods. This product is mainly used in the following industries. chemical industry, glass, metallurgy, papermaking, printing and dyeing, synthetic detergents, petrochemical industry, etc.

Molecular formula. Na_2CO_3

Relative molecular mass. 105.99 (according to the international relative atomic mass in 1999)

2 Normative references

The provisions in the following documents become the provisions of this Standard through reference in this Standard. For dated references, the subsequent amendments (excluding corrections) or revisions do not apply to this Standard. However, parties who reach an agreement based on this Standard are encouraged to study if the latest editions of these documents are applicable. For undated references, the latest editions apply to this Standard.

GB/T 3049-1986 Chemical products for industrial use - General method for determination of iron content - o-Phenanthroline spectrophotometric method (neq ISO 6685.1982)

GB/T 3050-2000 Inorganic chemical products for industrial use - General method for determination of chloride content - Potentiometric method

GB/T 3051-2000 Inorganic chemical products for industrial use - General method for determination of chloride content - Mercurimetric method

GB/T 6682-1992 Water for analytical laboratory use - Specification and test methods (neq ISO 3696.1987)

3.1 Safety tips

Some of the reagents used in this test method are toxic or corrosive. Be cautious during operations! If splashing on the skin, FLUSH immediately.

In severe cases, TREAT immediately.

3.2 General provisions

In the absence of other requirements specified, the reagents and water used in this Standard refer to analytical reagents and Level III water specified in GB/T 6682-1992

3.3.1 Method summary

USE bromocresol green-methyl red mixture as indicator. USE standard hydrochloric acid volumetric solution for the titration of total alkali content.

3.4.1.1 Method summary

Same as the method in the Chapter 2 of GB/T 3051-2000.

3.4.2.3.1 Potentiometer. The accuracy shall not be lower than 10 mV/cell. The range shall be (-500 ~ +500) mV.

3.4.2.3.2 Reference electrode. double liquid junction saturated calomel electrode, filled with saturated potassium chloride solution. During titration, the saturated potassium nitrate solution filled in the outer casing shall be connected with the calomel electrode.

3.4.2.3.3 Measuring electrode. silver electrode or silver electrode with silver sulfide coating (For the preparation method, SEE the Appendix A of GB/T 3050-2000).

3.4.2.4 Analysis procedures

WEIGH appropriate quantity of test samples (2g of Type I, 1g of Type II). ACCURATE to 0.01g. PLACE the test samples in a 100mL beaker. ADD 40mL of water for dissolution. MAKE the following operations according to the provisions in the Section (3.4.2.2.2). START from "PUT in electromagnetic stirrers" to "NOTE down a potential value E again after the endpoint". However, do NOT add 4.00mL of standard silver nitrate volumetric solution at a time first.