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

GB/T 12684-2018

Replacing GB/T 12684-2006

Boron compound for industrial use - Methods of test

工业硼化物 分析方法

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard replaces GB/T 12684-2006 "Industrial Boride Analysis Method", compared with GB/T 12684-2006, except for editorial The main technical changes outside the revision are as follows:

--- Increased the content of impurity elements (sodium, iron, calcium, magnesium, aluminum, silica, arsenic) in industrial boric acid, anions (fluorine, chlorine, bromine, sulfate, Determination of nitrate and phosphate content and boron (10B/11B) abundance ratio (see Chapter 3);

--- Removed the reduction titration method in the determination of sulfate content in industrial boric acid (see

4.3.1 of.2006 edition);

--- Removed the determination of ammonia content in industrial boric acid (see.2006 edition of 4.6);

--- Removed the normative appendix "Determination of boric acid content in boric acid boronic acid" (see Appendix A of the.2006 edition). This standard was proposed by the China Petroleum and Chemical Industry Federation. This standard is under the jurisdiction of the National Chemical Standardization Technical Committee of the Inorganic Chemical Subcommittee (SAC/TC63/SC1). This standard was drafted. Dalian Jinma Boron Technology Group Co., Ltd., Dalian University of Technology, Qingdao inspection and quarantine technology development Xin, Qinghai Salt Lake Research Institute of Chinese Academy of Sciences, CNOOC Tianjin Chemical Research and Design Institute Co., Ltd. The main drafters of this standard. Wang Hongtao, Ning Guiling, Cui He, Li Jinli, Yang Yingshan, Tian Peng, Wang Min, Zhao Zuliang, Wang Yan. The previous versions of the standards replaced by this standard are.

---GB/T 12684.1~GB/T 12684.8-1990;

---GB/T 12684-2006. Industrial boride analysis method Caution - Personnel using this

standard should have practical experience in formal laboratory work. This standard does not indicate all possible security questions. It is the responsibility of the user to take appropriate safety and health measures and to ensure compliance with the conditions set by the relevant national regulations. In this test method The sample and some of the reagents used are toxic, flammable or corrosive. Care should be taken during handling. If splashed on the skin, immediately flush with water. Wash, severe cases should be treated immediately; when using flammable products, it is strictly prohibited to use open flame heating. High pressure gas cylinders used in this test method shall be pressed at high pressure. Cylinder safety procedures operate; the inductively coupled plasma emission spectrometer should not open the torch chamber after igniting the plasma.

1 Scope

GB/T 12684-2018 is the Chinese national standard on boron compound for industrial use - methods of test, in the field of chemical technology. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 7 June 2018 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 January 2019. Classification: ICS 71.040.40, CCS G10. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the boric acid content, water insoluble content, sulfate content, heavy metal content, arsenic content and impurity elements in industrial boric acid. (sodium, iron, calcium, magnesium, aluminum, silica) content, anion (fluorine, chlorine, bromine, sulfate, nitrate, phosphate) and boron (10B/11B) abundance Ratio, industrial boric acid, boron oxide and disodium tetraborate chloride content, industrial boric acid, boron oxide, disodium tetraborate, sodium perborate and crude sodium borate Method for determination of iron content. This standard applies to the determination of the content of the corresponding substances in industrial boride.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article. Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 3049-2006 General method for determination of iron content of industrial chemical products 1,10-phenanthroline spectrophotometric method

GB/T 3051-2000 General method for determination of chloride content in inorganic chemical products

GB/T 6682-2008 Analytical laboratory water specifications and test methods

HG/T 3696.1-2011 Preparation of standard solutions, preparations and products for chemical analysis - Part 1 . Standard Preparation of titration solution Standard Practice for Preparation of Standard Solutions, Preparations and Products for Chemical Analysis of Inorganic Chemical Products - Part 2. Impurity Standard Dissolution Liquid preparation Preparation of standard solutions, preparations and products for chemical analysis - Part 3. Preparations and preparations Preparation

3 Test methods

3.1 General provisions The reagents and water used in this standard refer to the analytical reagents and the three specified in GB/T 6682-2008 when no other requirements are specified. Grade water. The standard titration solution, impurity standard solution, preparation and products used in the test are all specified when no other requirements are specified. Prepared as specified in HG/T 3696.1, HG/T 3696.2, HG/T 3696.3.

3.2 Determination of boric acid content in industrial boric acid

3.2.1 Principle Boric acid is reinforced with mannitol (or invert sugar) and titrated with sodium hydroxide standard titration solution using phenolphthalein as an indicator.