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

GB/T 17874-2021

Electronic specialty gas - Boron trichloride

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Foreword

This document is in accordance with GB/T 1.1-2020 "Guidelines for Standardization Part 1. Structure and Drafting Rules of Standardization Documents".

To be drafted.

This document replaces GB/T 17874-2010 "Gas Boron Trichloride for Electronic Industry". Compared with GB/T 21287-2007, except

In addition to structural adjustments and editorial changes, the main technical changes are as follows.

- Changed the technical requirements that boron trichloride should meet (see Chapter 4, Chapter 3 of the.2010 edition);
- Change the requirements of the inspection rules (see Chapter 5, 4.1 in the.2010 edition);
- Changed the purity calculation method (see 6.1, 4.2 of the.2010 edition);
- Changed the determination method of oxygen, argon, nitrogen, carbon monoxide, carbon dioxide and methane content (see 6.2, 4.4 and 4.5 of the.2010 edition);
- The determination method of silicon tetrachloride content has been added (see 6.2);
- The method for the determination of chlorine content has been added (see 6.3);
- Added the determination method of phosgene and hydrogen chloride content (see 6.4);
- Changed the determination method of metal elements (see 6.5, 4.7 of the.2010 edition);
- Deleted the determination of particles (2010 version 4.8);
- Changed the logo, packaging, transportation and storage (see Chapter 7, Chapter 5 of the.2010 edition);
- Changed the safety information (see 7.3, 5.2 of the.2010 edition).

1 Scope

This document specifies the technical requirements, inspection rules, test methods, signs, packaging, transportation, storage and safety information of electronic grade boron trichloride

Requirements.

This document is applicable to electronic grade boron trichloride purified from crude boron trichloride.

2 Normative references

The content of the following documents constitutes an indispensable clause of this document through normative references in the text. Among them, dated quotations

Only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to

This document

GB 190 Dangerous Goods Packaging Mark

GB/T 3723 General Rules for Sampling Safety of Industrial Chemical Products

GB/T 5099 (all parts) seamless steel gas cylinders

GB/T 7144 Gas cylinder color mark

GB/T 11736 Standard method for hygienic inspection of chlorine in the air of residential areas Methyl orange spectrophotometric method

GB/T 14193 Liquefied Gas Cylinder Filling Regulations

GB 15258 Regulations for the preparation of chemical safety labels

GB/T 16804 Gas cylinder warning label

GB/T 28726 Gas Analysis Helium Ionization Gas Chromatography

GB/T 33145 Large-volume steel seamless gas cylinder

GB/T 34972 Determination of metal content in gases for electronics industry inductively coupled plasma mass spectrometry

TSG07 Licensing Rules for Special Equipment Production and Filling Units

TSG23 Gas Cylinder Safety Technical Regulations

3 Terms and definitions

There are no terms and definitions that need to be defined in this document.

4 Technical requirements

The technical requirements of boron trichloride should meet the requirements of Table 1.

Table 1 Technical requirements

Project indicators

Boron trichloride (BCl₃) purity (volume fraction)/10⁻² ≥ 99.999 ≥ 99.9995 ≥ 99.9999

(Oxygen Argon) (O₂ Ar) content (volume fraction)/10⁻⁶ < 1 < 0.5 < 0.25