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

GB/T 14603-2025

Replacing GB/T 14603-2009

Electronic gas - Halide gas

电子气体 卤化物气体

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document replaces GB/T 14603-2009 "Gas Boron Trifluoride for Electronics Industry", GB/T 14602-2014 "Gas Boron Trifluoride for Electronics Industry" GB/T 18994-2014 "High-purity chlorine gas for electronic industry", GB/T 17874-2021 "Trichlorinated gas for electronic industry" Boron", GB/T 26251-2010 "Fluorine and fluorine-nitrogen mixed gas", and GB/T 14603-2009, GB/T 14602-2014, Compared with GB/T 18994-2014, GB/T 17874-2021 and GB/T 26251-2010, in addition to structural adjustments and editorial changes, the main changes are.

The technical changes are as follows.

- Changed the scope (see Chapter 1, Chapter 1 of GB/T 14603-2009, Chapter 1 of GB/T 14602-2014, Chapter 1 of GB/T 18994-2014, Chapter 1 of GB/T 17874-2021, and Chapter 1 of GB/T 26251-2010);
- Added "Terms and Definitions" (see Chapter 3);
- Changed the technical requirements for halide gases (see Chapter 4, Chapter 3 of GB/T 14603-2009, GB/T 14602-2014 Chapter 3 of GB/T 18994-2014, Chapter 4 of GB/T 17874-2021, and GB/T 26251-2010 Chapter 3 of);
- Changed the sampling requirements (see Chapter 5, 4.1.2 of GB/T 14603-2009, 4.1.2 of GB/T 14602-2014, GB/T 18994-2014, 4.1.2, GB/T 17874-2021, 4.1.3, GB/T 26251-2010);
- Changed the purity calculation method (see 6.1, 4.2 of GB/T 14603-2009);
- Changed the determination method of oxygen, argon, nitrogen, carbon dioxide and sulfur dioxide content in boron trifluoride (see 6.2, GB/T 14603- 2009 versions 4.3 and 4.6);
- Added the method for determining the content of methane and carbon monoxide in boron

trifluoride (see 6.2);

- Changed the method for the determination of silicon tetrafluoride content in boron trifluoride (see 6.3, 4.4 of GB/T 14603-2009);
- Deleted the method for determination of sulfate content in boron trifluoride (see 4.5 of GB/T 14603-2009);
- Added the method for determining the content of hydrogen fluoride in boron trifluoride (see 6.3);
- Changed the determination method of oxygen, argon, nitrogen, methane, acetylene, carbon monoxide and carbon dioxide content in hydrogen chloride (see 6.4, GB/T 14602-2014, 4.3);
- Changed the determination method of hydrogen, oxygen, argon, nitrogen, methane, carbon monoxide and carbon dioxide content in high-purity chlorine (see 6.5, GB/T 18994-4.3 of 2014);
- Changed the method for determination of metal element content in high-purity chlorine (see 6.17, 4.5 of GB/T 18994-2014);
- Added the method for determining the content of oxygen, argon, nitrogen and carbon tetrafluoride in chlorine trifluoride (see 6.9);
- Added the method for determining the content of hydrogen fluoride in chlorine trifluoride (see 6.10);
- Changed the method for determining the fluorine content in fluorine-nitrogen mixtures (see 6.11, 4.2 of GB/T 26251-2010);
- Changed the method for determining the content of (oxygen and argon) in fluorine and nitrogen mixtures (see 6.12, 4.2 of GB/T 26251-2010);
- Changed the method for determining the content of carbon tetrafluoride and hydrogen fluoride in fluorine-nitrogen mixture (see 6.13, 4.2 of GB/T 26251-2010);
- Added the method for determining the content of sulfur hexafluoride, carbon monoxide, carbon dioxide, carbonyl fluoride and silicon tetrafluoride in fluorine-nitrogen mixed gas (see 6.13);
- Added the determination method of hydrogen, oxygen, argon, nitrogen, methane, carbon monoxide and carbon dioxide content in hydrogen bromide (see 6.14);
- Added the method for determining the content of hydrogen chloride in hydrogen bromide (see 6.15);
- Added the method for determining the water content in hydrogen bromide (see 6.16);
- Added the method for determining the content of metal elements in boron trifluoride (see

6.17);

- Changed the method for determination of metal element content in hydrogen chloride (see 6.17, 4.5 of GB/T 14602-2014);
- Added the method for determining the content of metal elements in chlorine trifluoride (see 6.17);
- Added the method for determining the content of metal elements in hydrogen bromide (see 6.17);
- Increased exhaust gas treatment requirements (see 6.18);
- Changed the inspection rules (see Chapter 7, 4.1 of GB/T 14603-2009, 4.1 of GB/T 14602-2014, GB/T 18994-2014, 4.1; GB/T 26251-2010, 4.1);
- Changed the requirements for marking, packaging, transportation, storage and safety information (see Chapter 8, Chapter 5 of GB/T 14603-2009, Chapter 5 of GB/T 14602-2014, Chapter 5 of GB/T 18994-2014, Chapter 8 of GB/T 17874-2021, Chapter 5 of GB/T 26251-2010).

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed and coordinated by the National Technical Committee for Semiconductor Equipment and Materials Standardization (SAC/TC203).

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The previous versions of this document and the documents it replaces are as follows.

- First published in 1993 as GB/T 14603-1993 and first revised in 2009 as GB/T 14603-2009;
- First published in 1993 as GB/T 14602-1993, first revised in 2009 as GB/T 14602-2009, and revised in 2014 as GB/T 14602-2015.

The second revision incorporated the contents of GB/T 24469-2009 "5N Hydrogen Chloride Gas for Electronics Industry";

- First issued as GB/T 18994-2003 in 2003 and first revised as GB/T 18994-2014 in 2014;
- First published in 1999 as GB/T 17874-1999, first revised in 2010 as GB/T 17874-2010, The second revision is GB/T 17874-2021;
- First published in 2010 as GB/T 26251-2010;
- This is the third revision, GB/T 14603-2009, GB/T 14602-2014, GB/T 18994-2014, GB/T 17874-2021 and GB/T 26251-2010 are integrated and revised. Electronic Gases Halide Gases