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GB/T 10118-2023

Replacing GB/T 10118-2009

High purity gallium

高纯镓

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Issued by: State Administration for Market Regulation;
Standardization Administration of China

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Foreword

This document complies with the provisions of GB/T 1:1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents" Drafting: This document replaces GB/T 10118-2009 "High Purity Gallium": Compared with GB/T 10118-2009, except for structural adjustments and editorial changes In addition, the main technical changes are as follows:

a) The scope of application of the standard has been changed (see Chapter 1, Chapter 1 of the:2009 edition);

b) Changed the grade indication (see Chapter 4, 3:1 of the:2009 edition);

c) The chemical composition requirements have been changed (see 5:1, 3:2 of the:2009 edition);

d) Changed the requirements for appearance quality (see 5:2, 3:3 of the:2009 edition);

e) The test method for chemical composition has been changed (see 6:1 and 6:2, 4:1 of the:2009 edition);

f) The inspection rules have been changed (see Chapter 7, Chapter 5 of the:2009 edition);

g) The content of the logo has been changed (see 8:1, 6:1 of the:2009 version);

h) The content of transportation has been changed (see 8:3, 6:3 of the:2009 version);

i) Changed the content of accompanying files (see 8:5, 6:5 of the:2009 version);

j) Appendix A has been deleted (see Appendix A of the:2009 version): Please note that some content in this document may be subject to patents: The publisher of this document assumes no responsibility for identifying patents: This document is jointly developed by the National Semiconductor Equipment and Materials Standardization Technical Committee (SAC/TC203) and the National Semiconductor Equipment and Materials Standards It was jointly proposed and coordinated by the Materials Sub-Technical Committee of the Chemistry Technical Committee (SAC/TC203/SC2): This document was drafted by: Youyan

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Guojinghui New Materials Co:, Ltd:, Chaoyang Jinmei Gallium Industry Co:, Ltd:, Guangdong Pioneer Microelectronics Technology Co:, Ltd: Company, Chengdu China National Building Materials Optoelectronic Materials Co:, Ltd:, Dongfang Electric (Leshan) Eban High Purity Materials Co:, Ltd:, Nonferrous Metal Technology and Economic Research Institute Co:, Ltd:, Wuhan Tuocai Technology Co:, Ltd:, Chuxiong Chuanzhi Electronic Materials Co:, Ltd:, Zhuzhou Keneng New Materials Co:, Ltd:, Yunnan Tin Industry New Materials Co:, Ltd: The main drafters of this document: Lu Shujuan, Cao Bo, Yu Hongguo, Xing Zhiguo, Mo Jie, Li Suqing, Shang Peng, Wang Yang, Wu Guangjie, Lin Shiyuan, Li Jiaxuan, Zhang Lei, Zhong Lianbing, Zhu Jun, Lu Pengjian, Zeng Xiaolong, Cao Changwei, Jin Zhihong, Zhao Kexiang, Wu Meizhen, Liu Xiaohua: This document was first published in 1988, revised for the first time in:2009, and this is the second revision: High purity gallium

1 Scope

GB/T 10118-2023 is the Chinese national standard on high purity gallium, in the field of metallurgy. 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 28 December 2023 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 July 2024. Classification: ICS 77.150.99, CCS H66. 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 document specifies the technical requirements, test methods, inspection rules, marking, packaging, transportation, storage, accompanying documents and order orders for high-purity gallium content: This document applies to the production, testing and quality evaluation of high-purity gallium with a purity of not less than 99:9999%:

Note: High-purity gallium is mainly used for the preparation of compound semiconductors, high-purity alloys and doping of semiconductor materials:

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text: Among them, the dated quotations For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document:

GB/T 8170 Numerical rounding rules and expression and determination of limit values

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GB 12463 General technical conditions for transport and packaging of dangerous goods

GB/T 15258 Regulations on Preparing Chemical Safety Labels

GB/T 16483 Chemical Safety Data Sheet Contents and Project Sequence YS/T 38:

3 Chemical analysis method of high-purity gallium Part 3: Determination of trace impurity element content Glow discharge mass spectrometry YS/T 474 Chemical analysis method for high-purity gallium Determination of trace elements by inductively coupled plasma mass spectrometry

3 Terms and definitions

There are no terms or definitions to be defined in this document:

4 Grades

High-purity gallium is divided into three grades: Ga6N, Ga7N, and Ga8N according to its chemical composition:

5 Technical requirements

1 Chemical composition 5:1:

1 The chemical composition of Ga6N and Ga7N high-purity gallium should comply with the requirements in Table 1: Table

1 Chemical composition of Ga6N and Ga7N high-purity gallium Brand Ga6N Ga7N Ga (mass fraction) >=99:9999% >=99:99999% Impurity contenta ng/g Na <=30 <=

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