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

**GB/T 12007.2-2025**

Replacing GB/T 12007.2-1989

**Epoxy resin - Part 2: Determination of sodium ion**

环氧树脂 第2部分：钠离子的测定

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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 is Part 2 of "Epoxy Resins". GB/T 12007 has already published the following parts.

2. Determination of Sodium Ions;

3. Method for determining the total chlorine content of epoxy resins;

6. Method for Determining the Softening Point of Epoxy Resins - Ring and Ball Method;

7. Method for determining the gel time of epoxy resins. This document replaces GB/T 12007.2-1989 "Determination of Sodium Ions in Epoxy Resins". Compared with GB/T 12007.2-1989, except for the following. Aside from structural adjustments and editorial changes, the main technical changes are as follows:

---The scope of application of the standard has been changed (see Chapter 1, Chapter 1 of the 1989 edition);

---Added English equivalents for the terms (see Chapter 3);

---Flame atomic absorption spectrometry has been added (see 4.2). Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed by the China Petroleum and Chemical Industry Federation. This document is under the jurisdiction of the National Technical Committee on Plastics Standardization (SAC/TC15). This document was drafted by: Shandong Shengquan New Material Co., Ltd., Zhonglan Chenguang Chemical Research and Design Institute Co., Ltd., and Shandong Provincial Product... Quality Inspection and Research Institute, Zibo Municipal Institute of Inspection, Testing and Metrology, Qingdao University of Technology, Zhejiang Chenxiang Plastics Co., Ltd., Zhuhai Hongchang Electronics Materials Co., Ltd., Zhejiang Wansheng Co., Ltd.,

Kingfa Science & Technology Co., Ltd., Jilin Provincial Institute of Product Quality Supervision and Inspection, Qingdao Marine Geological Institute, Dongfang Feiyuan (Shandong) Electronic Materials Co., Ltd., and Hebei Kainuo Zhongxing Technology Co., Ltd. The main drafters of this document are. Liu Mingxiang, Zhu Liangbo, Lian Lu, Gao Hui, Zhang Bin, Pang Bo, Fang Yong, Liu Qinjun, Li Xufeng, Chu Zhaoning, and Rao Xiang. Sun Xiaozhong, Li Shangyu, Song Xiaoyun, Xie Yong, Xiong Gaohu, Gao Jianguo, Sun Fengxia. The release history of this document and the document it replaces is as follows:

---First published in 1989 as GB/T 12007.2-1989;

---This is the first revision.

Epoxy resin is a thermosetting resin composed of epoxy groups (-C-CH<sub>2</sub>-O-) in its molecular structure. It has good adhesion. With its excellent adhesion, corrosion resistance, heat resistance, and electrical insulation properties, epoxy resin is widely used in various industrial fields. Epoxy resin typically reacts with a curing agent and undergoes a curing process... It cures with heat or at room temperature to form a strong material. Common applications include coatings, adhesives, composite materials, electronic packaging, and building repair. GB/T 12007 "Epoxy Resins" is proposed to consist of four parts.

2.Determination of Sodium Ions. The purpose is to describe the sodium ion concentration meter method and flame atomic absorption spectrometry method for determining the sodium ion concentration in epoxy resins. Methods for determining sodium ion content in resin aqueous extracts;

3.Method for Determination of Total Chlorine Content in Epoxy Resins. The purpose is to describe the oxygen flask method for determining the total chlorine content in epoxy resins. method;

## 1 Scope

GB/T 12007.2-2025 is the Chinese national standard on epoxy resin - part 2: determination of sodium ion, in the field of rubber and plastic industries. 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 31 October 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 May 2026. Classification: ICS 83.080.10, CCS G31. 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 describes the determination of sodium ion content in epoxy resin aqueous extracts using a sodium ion concentration meter and flame atomic absorption spectrometry.

method. This document describes a sodium ion concentration meter method suitable for determining the sodium ion content in bisphenol A type epoxy resins; flame atomic absorption spectrometry is also applicable. Determination of sodium ion content in epoxy resins that are soluble in chloroform.

## 2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 678 Chemical Reagents - Ethanol (Anhydrous Ethanol)

GB/T 679 Chemical Reagents - Ethanol (95%)

GB/T 686 Chemical Reagent Acetone

GB/T 1266 Sodium Chloride Chemical Reagent

HG/T 2629 Chemical Reagent Barium Hydroxide Octahydrate (Barium Hydroxide)

HG/T 3455 Chemical Reagent Cyclohexanone

## 3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 When the sodium ion concentration in water is 0.0001 mol/L,  $pNa=4$  is called  $pNa4$  solution, which is used as a standard solution for potentiometer positioning.

Note.  $pNa$  refers to the sodium ion activity coefficient, expressed as the negative logarithm of the sodium ion activity in aqueous solution or the logarithm of the reciprocal of the sodium ion activity.

### 4.1 Sodium ion concentration meter method

4.1.1 Principle The sample was dissolved in an appropriate amount of xylene-cyclohexanone mixed solvent, separated by water extraction, and then the water extract was measured using a sodium ion concentration meter. The sodium ion concentration in it.