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

GB/T 46318-2025

Plastics - Phenolic resins - Classification and test methods

塑料 酚醛树脂 分类和试验方法

(English Translation)

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Table of Contents

Foreword
1 Scope
2 Normative references

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 modified to adopt ISO 10082:1999 "Plastics - Phenolic resins - Classification and test methods".

A new chapter on "Terms and Definitions" has been added.

This document has undergone the following structural adjustments compared to ISO 10082:1999.

---The numbering of Table 1 in ISO 10082:1999 has been changed to Table 2 (see 5.2.2.6).

The technical differences between this document and ISO 10082:1999, and the reasons therefor, are as follows.

---ISO 60 has been replaced by the normatively referenced GB/T 1636, ISO 3251 has been replaced by GB/T 1725, and GB/T 2916 has been replaced by [other standards/standards].

ISO 4610 and GB/T 6005 replaced ISO 565; GB/T 6750 replaced ISO 2811-1; and GB/T 9345.1 replaced...

ISO 3451-1 and GB/T 16582 replaced ISO 3146; GB/T 21059 replaced ISO 3219; and GB/T 30773 replaced...

ISO 8974 and GB/T 32364 replaced ISO 8975; GB/T 32675 replaced ISO 9771; and GB/T 32681 replaced...

ISO 11409 and GB/T 32683.1 have replaced ISO 12058-1, and GB/T 32684 has replaced ISO 11402 and GB/T 32688.

It replaces ISO 8619, GB/T 32697, ISO 9944, and GB/T 33315; it also replaces ISO 9396 and GB/T 33316.

It replaces ISO 8987, GB/T 33317, ISO 8988, GB/T 33323, ISO 8989, and GB/T 33388.

ISO 11401:1993 and GB/T 40280 have replaced ISO 2555 to adapt to my country's technical conditions and increase operability.

Actual nature;

---Section 4.1 has been removed to fit the structure of this document;

---Table 1 (see 5.1) has been added, replacing the corresponding ISO standards in 4.2 with normatively referenced national standards to adapt to my country's technical requirements.

Improve technical conditions and increase operability;

---High performance liquid chromatography (HPLC) has been expanded to be applicable to phenolic resins (see Table 2). With the development of modern analytical techniques, HPLC has become increasingly important due to its application in this field.

Its high sensitivity, high resolution, and rapid analytical applications are becoming increasingly widespread, thus increasing its use in the determination of formaldehyde content in phenolic resins.

This method;

---The determination of free formaldehyde content using high-performance liquid chromatography (HPLC) has been added (see 5.2.2.6.5). HPLC is highly sensitive and has high resolution.

With the increasing prevalence of high-efficiency and rapid analytical methods, this method has been added to the determination of formaldehyde content in phenolic resins.

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).

1 Scope

This document describes the classification and testing methods for phenolic resins.

This document applies to the determination of relevant properties involved in the production, processing, and use of phenolic resins.

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 1636 Determination of apparent density of plastics that can flow from a specified funnel (GB/T 1636-2008, ISO 60:1977) MOD) GB/T 1725 Determination of nonvolatile matter content in paints, varnishes and plastics (GB/T 1725-2007, ISO 3251:2003, IDT) GB/T 1884 Laboratory Determination of Density of Crude Oil and Liquid Petroleum Products (Density Meter Method) GB/T 2035 Plastics Terminology GB/T 2916 Sieve analysis of homopolymer and copolymer vinyl chloride resins using an air jet sieve apparatus (GB/T 2916-2007) ISO 4610:2001, MOD) GB/T 6005 Basic dimensions of sieve openings for metal wire woven mesh, perforated plates and electroformed thin plates (GB/T 6005-2008, ISO 565:1990, MOD) GB/T 6283 Determination of Moisture Content in Chemical Products - Karl Fischer Method (General Method) GB/T 6750 Determination of density of paints and varnishes - Specific gravity bottle method (GB/T 6750-2007, ISO 2811-1:1997, IDT) GB/T 9345.1 Determination of ash content in plastics-Part 1: General methods (GB/T 9345.1-2008, ISO 3451-1:1997) IDT) GB/T 16582 Determination of melting behavior (melting temperature or melting point) of partially crystalline polymers for use in plastics by capillary method and polarized light microscopy Scope (GB/T 16582-2008, ISO 3146:2000, IDT) GB/T 21059 Viscosity of polymers/resins in liquid, emulsion, or dispersion systems at specified shear rates using a rotational viscometer Determination of degree (GB/T 21059-2007, ISO 3219:1993, IDT) GB/T 30773 Determination of Free Phenol Content in Phenolic Resins by Gas Chromatography (GB/T 30773-2014, ISO 8974:2002) IDT) GB/T 32364 Determination of pH value of phenolic resins in plastics (GB/T 32364-2015, ISO 8975:1989, MOD) GB/T 32675 Determination of pseudo-adiabatic temperature rise of liquid methyl phenolic resin under acidic conditions for curing. (GB/T 32675-2016, ISO 9771:1995, MOD) GB/T 32681 Plastics - Phenolic Resins - Determination of Heat of Reaction and Reaction Temperature by Differential Scanning Calorimetry (GB/T 32681-2016, ISO 11409:1993, MOD) GB/T 32683.1 Determination of viscosity of plastics using a falling ball viscometer-Part 1: Inclined tube method (GB/T 32683.1-2016) ISO 12058-1:1997, MOD) GB/T 32684 Determination of free formaldehyde content in phenolic resins for plastics (GB/T 32684-2016, ISO 11402:2004)