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

GB 23971-2025

Replacing GB 23971-2009

Organic heat transfer fluids

有机热载体

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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 23971-2009 "Organic Heat Transfer Fluids". Compared with GB 23971-2009, the main differences are structural adjustments and editorial changes. In addition, the main technological changes are as follows:

- a) Added regulations for organic heat transfer fluids used in the food or pharmaceutical industries (see Chapter 5);
- b) The auto-ignition point test method has been modified (see Table 2,.2009 edition);
- c) The sulfur content has been changed from "not greater than 0.2%" to "less than or equal to 500 mg/kg" (see Table 2,.2009 edition).
- d) The sulfur content test methods GB/T 388 and SH/T 0172 have been deleted (see Table 2 of the.2009 edition);
- e) The moisture test method ASTM D6304 has been removed (see Table 2 of the.2009 edition);

- f) Added kinematic viscosity test methods NB/SH/T 0870 and NB/SH/T 0956, and adopted GB/T 265 as the arbitration method. (See Table 2);
- g) The density test method SH/T 0604 has been added (see Table 2);
- h) An explanation has been added regarding the discrepancy between the initial boiling point and the 2% distillation temperature (see footnote f in Table 2);
- i) The test method for residual char in SH/T 0170 has been deleted (See Table 2 of the.2009 edition);
- j) The batch inspection frequency for water-soluble acids and bases has been changed (see Table 3,.2009 edition);
- k) The thermal testing procedure has been modified (see B.6.1.4, C.7.1.4 in the.2009 edition). This document was proposed and is under the jurisdiction of the National Energy Administration. This document was first published in.2009, and this is its first revision.

Organic heat transfer fluid Warning

---If appropriate precautions are not taken, the products described in this document may pose a hazard during production, storage, transportation, and use. Risk. This document is not intended to make recommendations on all safety issues related to this product. Users are responsible for establishing appropriate safety protocols before using this document. Safety and health measures, and determine the applicability of relevant regulatory restrictions.

1 Scope

GB 23971-2025 is the Chinese national standard on organic heat transfer fluids, in the field of petroleum and related technologies. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 5 October 2025 by the State Administration for Market Regulation; Standardization Administration of China, and takes effect on 1 November 2026. Classification: ICS 75.100, CCS E 34. 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 classification and labeling, requirements, test methods, and inspection regulations for unused mineral oil-based and synthetic organic heat transfer fluids. Rules, marking, packaging, transportation, storage and safety. This document applies to organic heat transfer fluids used in various types of indirect heat transfer systems. This document does not apply to chemicals that have an oxidizing effect and are directly used for heating or cooling. This document does not apply to organic heat transfer fluids

produced from recycled oil.

Note. Products classified as L-QA according to GB/T 7631.12 are not applicable to organic heat carrier boilers. This document does not apply to products classified as L-QA according to GB/T 7631.12. L-QA category products.

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 259 Determination of water-soluble acids and bases in petroleum products

GB/T 261 Determination of flash point - Binski-Martin closed cup method

GB/T 265 Petroleum Products - Determination of Kinematic Viscosity and Calculation of Dynamic Viscosity

GB/T 268 Determination of Carbon Residue in Petroleum Products (Kondratiev Method)

GB/T 508 Determination of Ash Content in Petroleum Products

GB/T 1884 Laboratory Determination of Density of Crude Oil and Liquid Petroleum Products (Density Meter Method)

GB/T 1885 Petroleum Measurement Tables

GB/T 3078 High-quality structural steel cold-drawn steel products

GB/T 3535 Determination of Pour Point of Petroleum Products

GB/T 3536 Determination of flash point and ignition point of petroleum products - Cleveland open cup method

GB/T 4756 Manual Sampling Method for Petroleum Liquids

GB/T 4945 Petroleum products and lubricants - Determination of acid and base value (color indicator method)

GB/T 5096 Test method for corrosion of copper strips in petroleum products

12 Group Q (Organic Heat Transfer Fluids)

GB/T 11133 Determination of water content in petroleum products, lubricating oils and additives - Karl Fischer coulometric titration method

GB/T 11140 Determination of Sulfur Content in Petroleum Products - Wavelength

Dispersive X-ray Fluorescence Spectrometry

GB/T 16483 Contents and Item Order of Safety Data Sheets for Chemicals

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