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

**GB/T 47357-2026**

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**Determination of the melting point and drop melting point of  
Fischer-Tropsch wax - Differential scanning calorimetry**

费托合成蜡熔点、滴熔点的测定 差示扫描量热法

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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. 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 and is under the jurisdiction of the National Technical Committee on Standardization of Coal Chemical Industry (SAC/TC469). This document was drafted by: Petrochemical Research Institute of China National Petroleum Corporation and Sinopec Synthetic Oil Technology Co., Ltd. Shanxi Provincial Inspection and Testing Center, Inner Mongolia Yitai Coal Co., Ltd., Guoneng Economic and Technological Research Institute Co., Ltd., Sinopec (Dalian) Petrochemical Research Institute Co., Ltd., Netzsch Scientific Instruments (Shanghai) Co., Ltd., Changzhi Comprehensive Inspection and Testing Center, Waters Technology (Shanghai) Limited Liability Company, Mettler Toledo Technologies (China) Co., Ltd., Inner Mongolia Yuanji Chemical Co., Ltd., China National Petroleum Corporation Si Daqing Petrochemical Branch and Shanxi Lu'an Coal-based Clean Energy Co., Ltd. The main drafters of this document are: Wang Gang, Xia Endong, Li Shujie, Jin Shuhan, Wang Zidong, Li Ying, Jia Defang, Zhao Yanli, Chen Jingxia, and Zhi Hongmei. Zhao Bin, Wang Qiang, Ma Li, Ji Yonggang, Wang Rong, Qu Longmei, Ni Lijuan, Guo Yanshuang, Chen Wenxuan, Yang Yue, Tao Yi, Shi Wenxia, Guan Xu, Rong Lili Chen Xiang, Guo Kai, Sun Famin, Zhao Tan. Determination of melting point and dropping point of Fischer-Tropsch synthetic wax Differential scanning calorimetry Warning. This document should be used by personnel with prior experience working in a formal laboratory setting. This document does not address all potential safety issues. Users are responsible for taking appropriate safety and health measures and ensuring compliance with relevant national regulations.

### 1 Scope

GB/T 47357-2026 is the Chinese national standard covering the melting behaviour of Fischer-Tropsch wax - a synthetic wax from coal or gas conversion, whose melting range decides its use in candles, coatings, hot melt adhesives and PVC processing. First edition,

in force since 1 October 2026. It was issued on 31 March 2026 and takes effect on 1 October 2026, as a first edition. The document is under the responsibility of the Standardization Administration of China. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document describes a method for determining the melting point and dropping point of Fischer-Tropsch waxes using differential scanning calorimetry (DSC). The melting point determination range is [range missing]. The melting point range is 55.0°C to 80.0°C; the dropping melting point range is 75.0°C to 115.0°C. For measurements outside this range, refer to this method, but the precision will not be guaranteed. Verification is required. This document applies to the determination of the melting point and dropping point of Fischer-Tropsch synthetic waxes.

## 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 6425 Terminology for Thermal Analysis

GB/T 6678 General Rules for Sampling of Chemical Products

GB/T 6679 General Rules for Sampling of Solid Chemical Products JJG936 Verification Procedure for Differential Scanning Calorimeter

## 3 Terms and Definitions

The terms and definitions defined in GB/T 6425 and the following terms and definitions apply to this document.

**3.1 inflection point** The temperature point corresponding to the maximum slope on the DSC curve is the peak temperature of the first derivative of the DSC curve.

**3.2 melting point** The extrapolated starting temperature on the DSC crystallization curve under specified conditions.

**3.3 drop melting point** Under specified conditions, the inflection point temperature near the end of the melting peak on the second DSC heating melting curve.

**4. Method Overview** Differential scanning calorimetry was used, and the test was conducted by heating and cooling the sample under inert gas protection. The flow rate of the inert gas

was set as follows: The heating rate of the furnace body is measured, and the relationship between the difference in heat flow rate between the sample and the reference material and temperature or time is determined to obtain information about the sample's melting or...

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