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

GB/T 382-2025

Replacing GB/T 382-2017

**Test method for smoke point of kerosene and aviation turbine
fuel**

煤油和喷气燃料烟点测定法

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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. This document replaces GB/T 382-2017 "Determination of Smoke Point of Kerosene and Jet Fuels". Compared with GB/T 382-2017, except for structural adjustments... Aside from the integration and editorial changes, the main technical changes are as follows:

- The atmospheric pressure range applicable to the method's precision has been expanded (see Chapter 1 and Chapter 12);
- Added terms and definitions (see Chapter 3);
- Some instrument and equipment details have been modified, including the technical specifications for pipettes, graduated cylinders, thermometers, qualitative filter paper, extractors, ovens, and desiccators. Requirements (see Chapter 5, Chapter 5 of the.2017 edition);
- The sampling content has been changed (see Chapter 7, Chapter 7 in the.2017 edition);
- The wick pretreatment method has been changed (see 10.1,.2017 version 10.1);
- The content of the test report has been changed (see Chapter 13, Chapter 13 of

the.2017 edition). 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 Petroleum Products and Lubricants (SAC/TC280). This document was drafted by: Sinopec Research Institute of Petroleum Processing Co., Ltd., China Aviation Oil Co., Ltd., and Sinopec Marine. Nanlian Petrochemical Co., Ltd., Shaanxi Yanchang Petroleum (Group) Co., Ltd. Yulin Refinery, China National Petroleum Corporation Qinglian Chemical Branch, CNOOC Huizhou Petrochemical Co., Ltd., and Beijing Chuxiangfei Technology Development Co., Ltd. The main drafters of this document are. Chang Chunyan, Zhang Chenmeng, Meng Xiangzhan, Liu Jian, Zhang Cuijun, Yan Hao, Zhang Jianxia, Du Shanmei, Zhao Jie, and Shi Yanmei. Tao Zhiping, Zheng Yu, Zhang Kaijing. This document was first published in 1965, revised for the first time in 1978, revised a second time in 1983, and revised a third time in.2017.This revision is... Fourth revision.

This document provides a method for representing the relative smoke generation properties of kerosene and jet fuels in a diffusion flame. Smoke point is related to the hydrocarbon composition of the fuel. Close. Generally, the higher the aromatic content of the fuel, the more smoke the flame produces. A high smoke point indicates a lower tendency for the fuel to produce smoke. There is a quantitative relationship between smoke point and the potential radiative heat transfer from fuel combustion products. Radiative heat transfer has a significant impact on the combustor lining and other thermal systems of turbine engines. The metal temperature of the components has a significant impact, and the smoke point provides a correlation between fuel characteristics and the service life of these components. Methods for determining the smoke point of kerosene and jet fuel Warning

---Personnel using this document should have practical experience in formal laboratory work. The use of this document may involve certain hazardous activities. This document does not address all potential safety issues related to the materials, equipment, and operations used. Users are responsible for taking appropriate safety and health precautions. Implement the measures and ensure they comply with the conditions stipulated by relevant national laws and regulations.

1 Scope

GB/T 382-2025 is the Chinese national standard covering the smoke point - the height in millimetres of the tallest flame a fuel will burn in the standard lamp without smoking, which stands for the aromatic content and predicts how much soot the combustor will make and how hot the liner will run. Issued on 5 October 2025, it has been in force since 1 May 2026, replacing GB/T 382-2017.

This document describes manual and automated methods for determining the smoke point of kerosene and jet fuel. This document applies to the determination of the smoke point of kerosene and jet fuels. The precision data for manual instruments are applicable to a

pressure range of 70 kPa~. The precision data of the automatic instrument is applicable to atmospheric pressure ranges from 75 kPa to 102 kPa; for smoke point determination at other pressures, its precision is [not specified]. For reference only.

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 4756 Manual Sampling Method for Petroleum Liquids

GB/T 12807-2021 Graduated Pipettes for Laboratory Glassware

GB/T 12808-2015 Laboratory Glassware - Single-mark Pipettes

GB/T 27867 Automatic Sampling Method for Petroleum Liquid Pipelines NB/SH/T 0843
Evaluation Statistical Techniques for Testing Methods in the Petrochemical Industry SH/T
0635 Sampling Method for Liquid Petroleum Products (Semi-automatic Method)

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 kerosene It has volatility between that of gasoline and gas oil, and its closed-cup flash point is higher than that of distillate oils with a temperature above 38°C. [Source: GB/T 4016-2019, 1.15.053]

3.2 jet fuel (aviationturbinefuel) Petroleum distillate oil, which serves as an energy source for jet propulsion systems, can also be used as fuel for aviation gas turbine engines. [Source: GB/T 4016-2019, 1.15.056]

3.3 smokepoint Under specified conditions, the maximum flame height obtained when a petroleum fraction burns in a standard lamp without producing smoke.

Note. The unit is millimeters (mm).