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

GB/T 18825-2024

Replacing GB/T 18825-2008

Cyclopentane for industrial use

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting. This document replaces GB/T 18825-2002 "Industrial Cyclopentane". Compared with GB/T 18825-2002, except for structural adjustment and editing, In addition to the changes in performance, the main technical changes are as follows:

- a) The scope has been changed (see Chapter 1, Chapter 1 of the.2002 edition);
- b) Added product classification (see Chapter 4);
- c) Added technical requirements for coal-based cyclopentane (see Table 1);
- d) The index of "petroleum-based cyclopentane" has been changed (see Table 1, Table 1 of the.2002 edition);
- e) Added the method for determining density (see 5.3);
- f) The determination methods of main content and impurity components have been changed, and the determination method of naphthalene has been added (see 5.4, 4.3 of the.2002 edition);
- g) The determination method of moisture content has been added to GB/T 6324.8 (see 5.5);
- h) GB/T 6324.10 is added to the determination method of sulfur content, and GB/T 6324.10 is used as the arbitration method (see 5.6). Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the 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 Chemical Standardization (SAC/TC63). This document was drafted by: Puyang Lianzhong Xingye Chemical Co., Ltd., Jilin Jilin North Longshan Additives Co., Ltd., Shandong Jingboshi Petrochemical Co., Ltd., Zhejiang Derong

Chemical Co., Ltd., Sinopec (Beijing) Chemical Research Institute Co., Ltd., Dongying Junyuan Petroleum Technology Development Co., Ltd. Development Co., Ltd., Sinopec Zhongyuan Petrochemical Co., Ltd. The main drafters of this document are. Zhang Huaimin, Jiang Tao, Wang Yaowei, Wu Jianqing, Zhao Jiali, Yu Rui, Huang Yu, Lu Shaofei, Wang Jigang, Sha Jie, Miao Guangfa, Zhang Qi, Feng Shunli, Cai Dengding, and Yan Jianbo. This document was first published in 2002 and this is the first revision. Industrial Cyclopentane Warning

---This document does not address all safety issues. It is the user's responsibility to take appropriate safety and health measures and comply with national The provisions of relevant national laws and regulations.

1 Scope

GB/T 18825-2024 is the Chinese product standard for industrial cyclopentane. Cyclopentane is the blowing agent that replaced CFCs and then HCFCs in the polyurethane foam of refrigerators and insulated panels, and China makes most of the world's refrigerators, so this is a high volume specification. It is also a flammable hydrocarbon injected into a foam line, which is why the specification matters beyond the chemistry: the impurities that concern a foam producer are the ones that change the boiling behaviour and the compatibility with the polyol. The standard sets the requirements on the appearance, the cyclopentane content and the limits on the other hydrocarbons, on sulfur, on water, on the non-volatile residue and on the acidity, the colour and the distillation range, together with the test methods for each, the inspection rules, and the requirements on marking, packaging, transport, storage and safety. The 2024 edition replaces GB/T 18825-2008. For a producer, a foam system house or an appliance maker in China, this is the acceptance text.

This document specifies the classification, requirements, test methods, inspection rules, marking, packaging, transportation and storage of industrial cyclopentane. This document applies to cyclopentane obtained by hydrodistillation of petroleum-based or coal-based C5 raw materials.

Note. The molecular formula of cyclopentane is C_5H_{10} , the structural formula is, and the relative molecular mass is 70.13 (according to the 2022 international relative atomic mass).

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB 190 Dangerous Goods Packaging Marking

GB/T 1884 Laboratory determination of density of crude oil and liquid petroleum products (density meter method)

GB/T 4472 Determination of density and relative density of chemical products

GB/T 6283 Determination of water content in chemical products - Karl Fischer method (general method)

GB/T 6324.8 Test methods for organic chemical products Part

8.Determination of water content in liquid products - Karl Fischer coulometric method

GB/T 6324.10 Test methods for organic chemical products Part

10.Determination of trace sulfur in organic liquid chemical products UV fluorescence Optical method

GB/T 6678 General Principles for Sampling of Chemical Products

GB/T 6680 General Rules for Sampling of Liquid Chemical Products

GB/T 6682 Specifications and test methods for water used in analytical laboratories

GB/T 8170 Rules for rounding off values and expression and determination of limit values

GB/T 9722 General rules for gas chromatography of chemical reagents NB/SH/T 0253

Determination of total sulfur content in light petroleum products - Coulometric method SH/T 0604 Density determination of crude oil and petroleum products (U-shaped vibrating tube method)

3 Terms and definitions

There are no terms or definitions that require definition in this document.

4 Categories

Industrial cyclopentane is divided into two categories according to different raw materials. "petroleum-based cyclopentane" and "coal-based cyclopentane".