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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 44328-2024

Heptafluoroisobutyronitrile

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Foreword

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1.Structure and drafting rules for standardization documents" Drafting is required. 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 Gas Standardization Technical Committee (SAC/TC 206). This document was drafted by: Zhejiang Chemical Research Institute Co., Ltd., Yunnan Power Grid Co., Ltd. Electric Power Research Institute, Haohua Gas Co., Ltd., Quanzhou Yuji New Materials Technology Co., Ltd., Sanming Haisifu Chemical Co., Ltd., State Grid Zhejiang Electric Power Co., Ltd. Electric Power Research Institute, Electric Power Research Institute of Guangdong Power Grid Co., Ltd., Zhonghao Chenguang Chemical Research Institute Co., Ltd., China Electric Power Institute of Science and Technology Co., Ltd., Zhejiang University, Haohua Gas Co., Ltd. Southwest Branch, Guangdong Power Grid Co., Ltd. Guangzhou Power Supply Bureau Power Scientific Research Institute, Fujian Del Technology Co., Ltd., Fujian Fudou New Materials Co., Ltd., Shanghai Huaai Chromatography Analysis Technology Co., Ltd. Zhejiang Juhua Technology Center Co., Ltd., Hangzhou New Century Mixed Gas Co., Ltd., Zhejiang Provincial Institute of Standardization, Zhejiang Provincial Ecological Environment Environmental Low Carbon Development Center, China University of Metrology, Shanghai Fanwei Instrument Equipment Co., Ltd., Sinochem Blue Sky Fluorine Materials Co., Ltd., Pinggao Group Co., Ltd., State Grid Anhui Electric Power Co., Ltd. Electric Power Research Institute, Xi'an Xidian Switchgear Co., Ltd., Zhejiang Huadian Equipment Testing and Research Institute Research Institute Co., Ltd., State Grid Jiangsu Electric Power Co., Ltd. Electric Power

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1 Scope

GB/T 44328-2024 is the Chinese standard for heptafluoroisobutyronitrile, the fluoronitrile that has emerged as the leading replacement for sulfur hexafluoride in gas-insulated switchgear. Its importance is climatic: SF6 has a global warming potential above twenty thousand and the power industry is its dominant user, while the fluoronitrile mixture offers comparable dielectric strength at a small fraction of that. It also makes the purity specification critical, because the impurities that matter, moisture, oxygen, acidity and the reactive by-products, are exactly the ones that degrade dielectric performance and attack the equipment. The standard sets the technical requirements with the assay and the limit for each impurity, the sampling of a liquefied gas, the test methods, principally gas chromatography with the appropriate detectors together with the moisture, acidity and non-volatile residue determinations, and then the inspection rules and the marking, packaging, transport and storage including the cylinder requirements. It took effect on 23 August 2024.

This document specifies the technical requirements, sampling, test methods, inspection rules, marking, packaging, filling, transportation, Storage requirements provide safety information for heptafluoroisobutyronitrile. This document applies to heptafluoroisobutyronitrile prepared from hexafluoropropylene as raw material.

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. in this document.

GB 190 Dangerous Goods Packaging Marking

GB/T 601 Preparation of standard titration solutions for chemical reagents

GB/T 603 Preparation of preparations and products used in chemical reagent test methods

GB/T 3634.2 Hydrogen Part

3 Terms and definitions

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