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

GB/T 45219-2025

**Dangerous goods - Test method for deflagration of self-reactive
substances and organic peroxides**

危险货物 自反应物质和有机过氧化物爆燃试验方法

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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. 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 is proposed and coordinated by the National Technical Committee for Hazardous Chemicals Management Standardization (SAC/TC251). This document was drafted by: Nanjing University of Science and Technology, Anhui University of Science and Technology, Changzhou University, North University of China, China Inspection and Traceability Jiangsu Technical Service Co., Ltd. Company, Nanjing Vocational College of Information Technology, Xiangtan University, Jiangsu Qiangsheng Functional Chemical Co., Ltd., Changshu Nissin Chemical Co., Ltd., Ordos Hanbo Technology Co., Ltd. and Ningbo Zhongqin Testing Technology Co., Ltd. The main drafters of this document are. Zhang Zhian, Wu Lizhi, Cheng Zhipeng, Xu Sen, Zhu Changlin, Xu Feiyang, Xia Yu, An Sensen, Shen Aifang, Chen Jing, Cai Yujiao, Cao Weiguo, Chen Yuan, Li Yuyan, Wu Xingliang, Zhong Qian, Qiu Shanshan, Tan Liu, Lin Jie, Bai Gang, Zhao Changsen, Niu Qiang, Ye Jiamei. Dangerous Goods Self-reactive substances and organic peroxides Deflagration test method Warning. People who use this document should have practical experience in regular laboratory work. Special attention should be paid to the test process involving explosion The use of explosives requires relevant qualifications and site conditions or entrusting an organization with relevant conditions to operate. This document does not specify all possible The user is responsible for taking appropriate safety and health measures and ensuring that the laboratory complies with relevant national laws and regulations. condition.

1 Scope

GB/T 45219-2025 gives the deflagration test for self-reactive substances and organic peroxides in the Chinese dangerous goods classification. These substances carry their own

oxygen and decompose exothermically without air, and the classification question is how that decomposition propagates: a substance that merely burns is packaged and shipped very differently from one in which a deflagration front runs through the mass. The test answers precisely that. The standard sets the principle, the test apparatus with its tube and ignition arrangement, the preparation and loading of the sample, the ignition, the observation and measurement of whether and how fast a deflagration propagates through the material, the number of trials, the criteria by which the propagation rate is classified, and the use of the result in assigning the substance to a division and a packing method, together with the safety precautions the test itself requires. It takes effect on 1 May 2025.

This document describes the principles, apparatus, test procedures, data processing and results of deflagration tests on self-reactive substances and organic peroxides. assessment. This document is applicable to the assessment of the ability of self-reactive substances and organic peroxides to propagate a deflagration.

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/T 11251 Alloy structural steel plates and strips

GB 19521.12 Safety specification for inspection of hazardous properties of dangerous goods containing organic peroxides

GB/T 21535 Terminology of dangerous chemicals and explosives

GB 30000.9 Chemical Classification and Labelling Specification Part

3 Terms and definitions

The terms and definitions defined in GB 19521.12, GB/T 21535, GB 30000.9, GB 30000.16 and the following terms and definitions apply to this document.

3.1 explosion In a very short time, a large amount of energy is released, high temperature is generated, and a large amount of gas is released, causing a chemical reaction or state change of high pressure in the surrounding area. phenomenon of. [Source: GB/T 21535-2008, 2.14]

3.2 Deflagration The phenomenon of violent combustion at a rate close to that of an explosive reaction. [Source: GB/T 21535-2008, 2.10, modified]

9 Self-reactive substances and mixtures

GB 30000.16 Chemical Classification and Labelling Specification Part

16 Organic Peroxides

GB/T 30429 Industrial Thermocouple

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