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

GB/T 45233-2025

**Guidelines for comprehensive safety risk assessment of
chemical industry park**

化工园区安全风险评估导则

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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 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 is proposed and coordinated by the National Technical Committee on Hazardous Chemicals Management Standardization (SAC/TC 251). This document was drafted by: China Chemical Economic and Technological Development Center, Anyuan Technology Co., Ltd., Sinopec Safety Engineering Research Institute Co., Ltd., Sinopec Engineering Construction Co., Ltd., Anhui Xiangyuan Technology Co., Ltd., Dekaida Management Consulting (Shanghai) Co., Ltd., Shaanxi Jingcheng Security Technology Service Co., Ltd., Beijing Zhengyuan Digital Technology Co., Ltd., Jiangren Wisdom (Jiangsu) Technology Co., Ltd., Shanghai Dragon Industrial Engineering Co., Ltd., Beijing Chenan Technology Co., Ltd., Beijing Silu Zhiyuan Technology Co., Ltd., China Unicom Digital Technology Co., Ltd. Company, Shanghai Fuding Technology Co., Ltd., Guizhou Chemical Research Institute, Dongying Port Economic Development Zone Management Committee, Jiangsu Taixing Economic Development Zone Development Zone Management Committee, Yidu Youyuan Industrial Co., Ltd., Saifeite Engineering Technology Group Co., Ltd., Shandong Lixing New Materials Technology Co., Ltd. Co., Ltd., China Bluestar Changhua Engineering Technology Co., Ltd., Chongqing Chemical Industry Research Institute Co., Ltd., and Luxi Chemical Group Co., Ltd. The main drafters of this document are. Yang Ting, Wang Sanming, Xin Baoquan, Ma Congyue, Liu Houzhou, Li Shaopeng, Feng Yuanyuan, Wu Weiguo, Gao Tingting, Li An, Teng Jingbo, Zeng Xiaoming, Sun Bai, Chen Tao, Wei Jianshu, Xie Li, Zhang Wen, Wang Shuai, Xu Li, Tian Juan, Geng Lifang, Liu Yongqiang, Teng Xiaoxing, Lu Chunsheng, Xu Xiuming, Yao Shunli, Zhu Shengyong, Leng Qing, Li Kongfu, Li Di, Su Qiangde, Sun Chenggao, Fang Zhou, Li Gang.

The chemical park safety risk assessment proposes scientific, reasonable and feasible

regional safety risk control measures and regional emergency rescue system construction. The activities of summarizing the evaluation results are necessary to reduce the risk level of new and existing chemical parks. The Office of the State Council's Guiding Opinions on Further Strengthening Safety Management in Chemical Industrial Parks (No. 37 of the Office of the State Council's Safety Committee [2012]) first proposed that chemical industrial parks should. The State Council's Safety Committee, the Ministry of Emergency Management, and the Ministry of Industry and Information Technology issued a series of policies and measures to. For example, the National Three-Year Action Plan for Special Rectification of Work Safety (Safety Committee [2020] No. 3), the Guiding Opinions" (Ministry of Industry and Information Technology [2015] No. 433), "Chemical Park Construction Standards and Certification Management Measures (Trial)" (Ministry of Industry and Information Technology [2021] 220) and the "Guidelines for the Investigation and Governance of Safety Risks in Chemical Parks" (Emergency [2023] No. 123), etc., provide guidance on the safety risk assessment of chemical parks. Make specific requirements. In order to implement the national policy requirements and standardize the safety risk assessment work of chemical parks, Jiangsu, Shaanxi, Ningxia, Sichuan, Henan, 10 provinces and autonomous regions, including Shandong, Shanxi, Hunan, Guangdong and Xinjiang, have formulated local standard documents. These local standard documents guide third-party units. However, the safety risk assessment of chemical parks has not been carried out in a standardized manner at the national level. There is no unified standard. It is not clear how to carry out risk assessment in chemical parks in various regions. The assessment procedures, content, methods and reporting requirements are unclear. Indeed, the quality of the evaluation by the third-party unit cannot be judged. This has resulted in the chemical park safety risk assessment work failing to achieve its intended purpose. The work has no practical results and the country's policies are difficult to implement. The Guidelines for Risk Assessment of Chemical Industrial Parks stipulates the overall requirements, assessment procedures, assessment contents and methods of safety risk assessment of chemical industrial parks. The evaluation report fills the gap of the lack of safety risk assessment standards at the national level and plays an important role in the risk assessment work of chemical parks in various places. guiding significance. Guidelines for Safety Risk Assessment in Chemical Industrial Parks

1 Scope

GB/T 45233-2025 gives the Chinese guidelines for comprehensive safety risk assessment of a chemical industry park. China concentrates its chemical industry into parks, and the assessments that had been done plant by plant missed exactly what the Tianjin and Xiangshui disasters demonstrated: the risk of a park is not the sum of the risks of its plants, because escalation between installations, shared infrastructure, the storage and movement of material between them and the surrounding population are properties of the park as a whole. The standard sets the assessment content and procedure, the collection of the

information required, the identification of the hazard installations and of the major accident scenarios, the analysis of domino and escalation effects between plants, the assessment of the individual and societal risk to the surrounding population, the evaluation of the park's layout, separation distances, emergency infrastructure and response capability, the grading of the park's risk level and the risk control measures and improvement plan that follow. It takes effect on 1 May 2025.

This document provides the general principles, assessment procedures, assessment content and methods, and assessment report of chemical park safety risk assessment guide. This document is applicable to safety risk assessment of chemical parks.

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 18218 Identification of major hazard sources of hazardous chemicals

GB 18265 Basic safety technology requirements for hazardous chemicals business enterprises

GB/T 23694 Risk Management Terminology

GB/T 27921 Risk management risk assessment technology

GB/T 36762 Management regulations for public pipe corridors in chemical parks

GB 36894 Risk benchmark for hazardous chemical production plants and storage facilities

GB/T 37243-2019 Method for determining external safety protection distances for hazardous chemical production equipment and storage facilities

GB/T 42078 Guidelines for the development and construction of chemical parks

GB 50014 Outdoor drainage design standard

GB 50016 Code for Fire Protection Design of Buildings

GB 50052 Design specification for power supply and distribution systems

GB 50074 Design specification for petroleum depots

GB 50160 Fire protection design standard for petrochemical enterprises