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

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**Guidelines for classifying the hazard of media in pressure
equipment**

承压设备介质危害分类导则

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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: Please note that some contents of this document may refer to patents: The issuing agency of this document assumes no responsibility for identifying patents: This document is proposed and managed by the National Standardization Technical Committee of Boilers and Pressure Vessels (SAC/TC262): This document is drafted by: China Special Equipment Testing and Research Institute, State Administration for Market Regulation, Sinopec Engineering Construction Co., Ltd., China Huanqiu Engineering Co., Ltd: Beijing Branch, Sinopec Shanghai Engineering Co., Ltd., East China University of Science and Technology, and Hefei General Machinery Research Institute have Co., Ltd., China Petrochemical Corporation, China National Petroleum Corporation, Beijing University of Chemical Technology, Sinopec Safety Engineering Research Research Institute Co., Ltd., First Heavy Group Dalian Nuclear Power Petrochemical Co., Ltd., Beijing Academy of Science and Technology Institute of Urban Safety and Environmental Science, Zhongte Inspection Group Co., Ltd., Jiangsu Special Equipment Safety Supervision and Inspection Research Institute: The main drafters of this document: Li Jun, Shao Shanshan, Shou Binan, Jia Guodong, Xu Feng, Duan Rui, Zhao Shuanzhu, Xie Guoshan, Huang Zhenglin, Xuan Fuzhen, Guo Xuehua, Zhou Yang, Yang Feng, Zhao Bin, Wang Jianlin, Liu Xiaohui, Zhou Fengge, Zhao Ming, Guo Jingqian, Kang Haoyuan, Cheng Sixiang, Guo Peijie:

Hazard classification of media used or stored in pressure equipment is the basis for classification, classification and safety assurance of pressure equipment: Material selection,

manufacturing, use management, etc: reduce or minimize risks, and avoid or reduce losses caused by failures and accidents: This document is prepared in combination with technological developments, existing medium and material characteristics and requirements, etc.; with the purpose of unifying the main pressure equipment medium Hazard classification criteria and principle requirements, but also has a certain flexibility, taking into account possible special circumstances and requirements: This document is not necessary, It is also impossible to cover all the criteria and principles of hazard classification: On the premise of meeting the basic safety requirements stipulated in laws and regulations, it can be combined with the actual situation: Carry out specific analysis, for example, the media hazards considered in this document are mainly for pressure equipment used on land, and for offshore platforms, offshore or lake The pressure equipment used in berthing and ships also has the problem of environmental hazards of the medium: This document does not specify the test method, nor does it limit the use of more advanced test methods in the actual media hazard classification analysis: According to the hazard classification of this document, different results may be obtained from the experimental data: It is recommended to focus on the source and reliability of the data: for a certain For a more reliable and realistic assessment of the hazards of a particular medium, the user's superior authority may, at its discretion, omit certain tests, change the test Test details, or additional test items: This document neither requires nor prohibits users from using various databases, the reliability of data sources in databases, the accuracy of data, all The adaptability of the selected data to the criterion has an important impact on the classification results of the medium hazards of the pressure equipment: Guidelines for Hazard Classification of Media for Pressure Equipment

1 Scope

China's national guidelines for classifying the hazard of the medium contained in pressure equipment. The classification is the first step in the regulation of any pressure vessel or pipeline, because the requirements applied to it depend on what is inside as much as on the pressure and the volume. A vessel of steam and a vessel of chlorine at the same pressure present entirely different consequences on failure, and every pressure equipment regime in the world therefore places media into hazard groups and scales the design, inspection and certification requirements accordingly. What the guidelines have to do is make that assignment consistent: the media are numerous, mixtures are common, and the hazards are of several kinds - flammable, toxic, corrosive, oxidising, and the simple asphyxiation risk of an inert gas released in quantity. Getting the classification wrong at the start propagates through every requirement that follows from it.

1 This document specifies the principles and requirements for the hazard classification of media used or stored in pressure equipment: 1:

2 This document is applicable to the hazard classification of media used or stored in

stationary pressure vessels and industrial pipelines, including raw materials, finished products, semi-finished products Products, intermediates, reactants, reaction by-products and impurities, etc.; the hazard classification of the medium used or stored in portable pressure vessels and gas cylinders can refer to Can be used: This document can be used for design and manufacture of pressure equipment (including risk-based design), risk assessment, inspection and testing, integrity management, etc: Hazard classification analysis of media at work, and compatibility analysis of media and materials: 1:

3 This document does not apply to pressure chambers in fluid machinery (such as pump casings, compressor casings, turbine casings, hydraulic cylinders, pneumatic cylinders, etc:), nuclear energy Hazard classification of media used or stored by pressure equipment in the installation:

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text: Among them, dated references For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to this document:

GB/T 30579 Damage Pattern Recognition of Pressure Equipment

GB/T 31481 Compatibility Judgment Guidelines for Cryogenic Vessel Materials and Gases

GBZ 230 Classification of Hazard Degree of Occupational Exposure to Toxic Substances

ISO 2592 Determination of flash point and fire point of petroleum and related products
Cleveland open cup method (Petroleumandrelated

ISO 10156 Determination of flammability potential and oxidizing capacity for cylinder valve openings for gases and gas mixtures in cylinders (Gascyl-

ISO 11114 (all parts) Compatibility of gas cylinders, cylinders and valves with gases
(Gascylinders- Compatibilityof lingofchemicals, GHS)

3 Terms and Definitions

The following terms and definitions apply to this document: 3:

1 Medium medium A chemical substance present in pressurized equipment in fluid or fluid form: