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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 45097.2-2024

Safety of intelligent consumer product - Part 2: Risk assessment

智能消费品安全 第2部分：风险评估

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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 is part 2 of GB/T 45097 "Safety of Intelligent Consumer Products". GB/T 45097 has been published in the following parts.

1.Hazard (source) identification;

2.Risk assessment;

3.Risk control. 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 and coordinated by the National Technical Committee on Consumer Product Safety Standardization (SAC/TC508). This document was drafted by: China National Institute of Standardization, Jiangsu Weinuo Testing Technology Co., Ltd., Jomoo Kitchen & Bathroom Co., Ltd., Ecovacs Robot Co., Ltd., Hubei Institute of Standardization and Quality, National Cultural and Educational Supplies Quality Supervision and Inspection Center, Wuhu Midea Kitchen and Bathroom Appliances Device Manufacturing Co., Ltd., China Academy of Building Materials (Beijing) Testing and Certification Co., Ltd., Chengdu Ankexin Electronics Co., Ltd., Shanghai Xiaodu Technology Co., Ltd. Company, China Electronics Technology Standardization Institute, Xiaomi Communication Technology Co., Ltd., Jiangsu Product Quality Supervision and Inspection Institute, China International ENGINEERING CONSULTANTS LIMITED. The main drafters of this document are. Liu Xia, Fang Xiangjing, Ying Lifeng, Yan Hai, Chen Yanming, Chen Liangquan, Zhang Lixiao, He Xin, Chen Qianwen, Huang Shi, Luo Zili, Zhao Yanwei, Xu

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Smart consumer products (such as smart home appliances, smart electronic information technology products, smart door locks, etc.) are emerging consumer products in recent years. While improving people's lives, its quality and safety issues have also attracted much attention. Risk control is an effective means to prevent product quality and safety issues. GB/T 45097 "Smart Consumer Product Safety" aims to provide a set of The methodological system of the above measures is to carry out risk management of smart consumer products in a scientific, standardized and efficient manner, thereby helping enterprises to improve product quality and safety. The project will improve the level of the industry, promote the orderly and healthy development of the industry, protect the health and property safety of the people, and lay a technical foundation. It is planned to consist of three parts.

1.Hazard (source) identification. Aims to provide principles and methods for identifying quality and safety hazards (sources) of smart consumer products, and give List of main hazards (sources) of this type of product at this stage.

2.Risk Assessment. Aims to provide process and method guidance for conducting safety risk assessment of smart consumer products.

3.Risk Control. Aims to provide actionable risk management strategies for different risk levels of hazards (sources) of smart consumer products. Risk control measures are taken to ensure that the quality and safety risks of smart consumer products are within an acceptable range. Smart Consumer Product Safety Part

1 Scope

GB/T 45097.2-2024 sets out how to assess the safety risks of a connected consumer product. Traditional product safety assessment addresses hazards the object presents by itself - electrical, mechanical, thermal, chemical - and assumes the product's behaviour is fixed at manufacture. An intelligent product breaks both assumptions: its behaviour changes with software updates, it acts on data from sensors and from a cloud service, it can be operated by someone who is not present, and it can be made to misbehave by an attacker. The result is a class of hazard that is neither purely safety nor purely security: a smart lock that opens, a heater that runs unattended, a toy that responds to a stranger. This part provides the principles of safety risk assessment for intelligent consumer products and establishes the general process, covering preliminary preparation, hazard and hazard source identification, and the steps that follow through to risk evaluation and treatment. Under ICS 03.120.01 and CCS A00, it is written for manufacturers of connected consumer products, for the certification and testing bodies assessing them, and for the market regulators who have to decide what a safety approval covers.

This document provides the principles of smart consumer product safety risk assessment and establishes the general process of smart consumer product safety risk assessment, including. Preliminary preparation, hazard (source) identification, risk estimation, and risk assessment. This document is applicable to conducting risk assessment activities for smart consumer products.

2 Normative references

The contents of the following documents constitute 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 22760-2020 Guidelines for risk assessment of consumer product safety

GB/T 45097.1-2024 Safety of smart consumer products Part

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Intelligence Capabilities that possess characteristics of human or human-like intelligence.

Note. The characteristics of human or human-like intelligence are manifested in the process of achieving a certain goal, which always involves one or more processes of perception, decision-making, and execution. or process cycle, and through continuous learning, improve their ability to achieve their goals and the efficiency and effectiveness of achieving their goals; this document believes that in embodying The various abilities and processes of perception, decision-making, execution and learning in them are indispensable to human or human-like intelligence. [Source: GB/T 28219-2018, 3.1]

3.2 consumer product Products designed and manufactured primarily but not limited to personal use, including product components, parts, accessories, instructions and packaging. [Source: GB/T 35248-2017, 2.2]

3.3 Safety A state free from unacceptable risk. [Source: GB/T 20002.4-2015,3.14]

3.4 Risk A combination of the probability of an injury occurring and the severity of the injury. [Source: GB/T 22760-2020, 2.6]