GB

NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

ICS 13.120

A 20

GB/T 39112-2020

General principles for safety risk control of consumer product life cycle

消费品生命周期安全风险控制通则

Issued on: October 21, 2020 **Implemented on: October 21, 2020**

Issued by: State Administration for Market Regulation;
Standardization Administration of the People's Republic of China.

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General principles for safety risk control of consumer product life cycle

1 Scope

This Standard specifies the general principles for safety risk control of consumer product at each stage of the life cycle.

This Standard applies to each stage of the life cycle of consumer product design, production, packaging, storage and transportation, use and recycling.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the dated version applies to this document. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 5296.1, Instructions for use of products of consumer interest - Part 1: General principles

GB/T 22760, Consumer product safety - General principles for risk assessment

GB/T 28803-2012, Directives for risk management of consumer products safety

GB/T 29289-2012, Design rules for consumer products safety

GB/T 35248-2017, Consumer product safety - Guidelines for suppliers

GB/T 36431-2018, Classification and code of consumer products

3 Terms and definitions

Terms and definitions determined by GB/T 28803-2012, GB/T 36431-2018 and the following ones are applicable to this document.

3.1 Consumer product

safety design and formulate residual risk control measures. In the stages of production, packaging, storage and transportation, use, and recycling, risk management and risk control shall be carried out in a targeted manner, so that the safety risk that arises from the entire consumer product life cycle can reach an acceptable level.

4.3 The safety risk control at each stage of the consumer product life cycle can be a cyclic process, including:

a) Identify the source of danger;

b) Conduct risk assessment and risk evaluation;

c) Formulate risk control measures and assess whether the residual risk reaches an acceptable level;

d) Verify the effectiveness of risk reduction measures, and confirm whether the residual risk reaches the expected acceptable level;

e) If the residual risk is unacceptable, formulate new risk reduction measures;

f) If the implementation of risk reduction measures may produce new risks, repeat a) ~ d), until the residual risk reaches an acceptable level.

5 Design stage

5.1 General requirements

At the consumer product design stage, full consideration shall be given to factors such as the end use of the consumer product, the use environment, and the users. On the basis of satisfying its predetermined functions, perform intrinsic safety design of consumer product forms, components and connections, material selection, manufacturing methods and processes, storage and transportation, use, and recycling, to identify its foreseeable misuse and risks; according to the risk assessment procedure that is given by GB/T 22760, reduce the risk to an acceptable level by changing product design, adopting protective measures, and using and warning information and other risk reduction measures; form a design specification (see 5.2 of GB/T 35248-2017) .

The following aspects shall be considered but not limited to:

a) Safety design method (see 5.2);

b) Safety design measures (see 5.3).

5.2 Safety design method

When the direct safety design may not be able to completely eliminate the risk or completely reduce the residual risk, indirect safety design measures, including protective devices and/or safety guards, shall be used for safety protection to protect personnel safety. Supplementary protection measures, including accessory equipment, may also have to be adopted.

Indirect safety design measures shall comply with the provisions of 8.3 in GB/T 29289-2012.

5.3.3 Prompt safety design measures

Prompt safety design is a constituent part of consumer product design; it consists of text, words, marks, signals, symbols or icons, which shall comply with the provisions of 8.4 in GB/T 29289-2012.

6 Production stage

6.1 General requirements

During the production stage of consumer products, follow the safety design requirements; aim at producing products of qualified safety performance; take appropriate measures to control risks during the entire production process. In the production stage, safety risks shall be identified and controlled from three aspects: procurement, processing and inspection.

6.2 Procurement

The security risk control measures at the procurement stage shall include but are not limited to the following aspects:

a) Before the production, it shall be confirmed that the raw materials, components, parts and assemblies, spare parts and accessories meet the design specifications.

b) Raw materials and components shall be purchased from manufacturers with guaranteed quality. When the source of procurement changes, it shall be approved before implementation.

6.3 Processing

The security risk control measures at the processing stage shall include but are not limited to the following aspects:

a) The manufacturer shall record the production process and steps; record in detail all the links which are related to the safety of consumer products, and ensure that they can be inquired at any time;

7.2 Packaging materials

The security risk control measures of packaging materials shall include but are not limited to the following aspects:

a) It shall be safe and environmentally friendly; it shall not produce harmful substances that endanger consumers' health; it shall be easy to recycle and reuse;

b) It shall not cause contamination of consumer products due to packaging, including safety issues which are caused by the combination of packaging materials and consumer products;

c) It shall be ensured that packaging materials do not harm consumers under unconventional conditions such as high temperature and humidity.

7.3 Packing method

The security risk control measures of packaging methods shall include but are not limited to the following aspects:

a) The dimensions, size and shape of the packaging shall be safe and reliable, which can ensure the quality of consumer products and the safety of consumers;

b) The opening method of the package shall be convenient and safe; special consideration shall be given to the special safety requirements of disadvantaged consumer groups, such as children, the elderly and the disabled.

7.4 Packaging mark

The security risk control measures of packaging mark shall include but are not limited to the following aspects:

a) Safety precautions which are related to the handling, storage, opening, use and maintenance of consumer products shall be marked on the outer packaging;

b) For possible potential hazards and reasonably foreseeable use, there shall be eye-catching safety warnings. When necessary, instructions for use and other relevant information shall be added.

8 Storage and transportation stage

8.1 General requirements

c) Avoid violent collisions and deformations that affect the performance of the product itself.

9 Use stage

9.1 General requirements

The use stage of consumer products shall provide information that is related to existing safety risks, and establish an information feedback mechanism.

Risk control during the use stage shall consider but not limited to the following aspects:

a) use information;

b) use method;

c) maintenance.

9.2 Use information

The use information shall consider but not limited to the following:

a) When consumer products are delivered, instructions for use and corresponding product warning signs shall be given.

b) The method of safe use of consumer products shall be correctly communicated to consumers, such as indicating the user's type and ability, and reducing the harm that is caused by improper use to an acceptable level. The use information shall meet the requirements of GB/T 5296.1.

c) When necessary, consumers shall be trained.

9.3 Use method

The use method shall consider but not limited to the following:

a) The supplier shall provide the correct use procedures and use methods of consumer products;

b) The supplier shall establish a good information feedback and early warning notification system for consumer product injury incidents;

c) Consumers shall follow the instructions for use.

9.4 Maintenance

Appendix A

(Informative)

Examples of safety risk control of wooden cabinet product life cycle

A.1 Overview

Wooden cabinets are mainly made of wood and wooden artificial boards (see QB/T 2530-2011).

A.2 Safety risk control of wooden cabinet life cycle

A.2.1 Design stage

A.2.1.1 Safety design steps

Through the statistical data of domestic wooden cabinet product quality accidents, consumer complaints, product safety performance tests, wooden cabinet quality and safety design requirements, and domestic and foreign product quality and safety standard limits for years, perform identification of risk factors:

a) Physical risk factors:

1) Appearance requirements: wooden parts, artificial board parts, glass parts, plastic parts, hardware accessories and connectors, woodworking requirements, paint film coating, material identification;

2) Main dimensions and dimensional limit deviation;

3) Shape and position tolerance;

4) Use functions;

5) Physical and chemical properties;

6) Safety requirements;

7) Mechanical properties: strength and durability, stability;

b) Chemical risk factors: limit of harmful substances.

A.2.1.2 Safety design method

Adopt the method of combining direct safety design and prompt safety design; according to the predictability and the risk cases that appear, continuously

The production process of wooden cabinets shall comply with the safety process of industrialized production; pay attention to labor protection, including the installation of supporting dust removal facilities and labor protection equipment for worker wearing. There shall be emergency facilities inside the factory, including fire-fighting channels and fire-extinguishing equipment. Organize production according to the product technical requirements that are specified in Chapter 4 of QB/T 2530-2011; set process quality inspection and delivery inspection in the production process.

A.2.2.3 Inspection

Product inspection is divided into delivery inspection and type inspection. The inspection rules are in accordance with the provisions of QB/T 2530-2011.

A.2.3 Packaging stage

A.2.3.1 Packaging materials

Packaging materials should be environmentally friendly cartons, wooden boxes and other materials; the use of plastic films and foam materials should be minimized. Packaging materials should be recyclable and reused.

A.2.3.2 Packaging method

The product shall be packaged, to prevent bumps, scratches and stains.

When products are packaged in bulk, there shall be a liner between the parts to protect the surface coating.

The product certificate, instruction manual and packing list shall be enclosed in the packaging box.

A.2.3.3 Packaging mark

The product packaging box shall be marked with at least: product name, model and main specification parameters, manufacturer name, address, and inspection mark. In addition, it shall also include: grade, quantity, gross weight, net weight, packing box size, product implementation standard number, and graphic signs that comply with GB/T 191.

A.2.4 Storage, transportation and installation stage

A.2.4.1 Storage

The products should be stored in a clean, dry and ventilated warehouse. They should be stacked flatly according to variety, specification, grade and type of structural parts, to prevent deformation. The height of the stack should not damage the packaging and should facilitate picking up.

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