

ICS 55.020



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

GB/T 16716.4-2018

Packaging and the environment-Part 4:Material recycling

包装与环境 第4部分：材料循环再生

(English Translation)

Issued on: December 28, 2018

Implemented on: December 28, 2018

Issued by: SAMR; SAC

Table of Contents

Days	1
------------	---

3 Days

Packaging and packaging waste -- Part 4: Reuse Obsolete GB/T 16716.4-2018 | Packaging and the environment -- Part 4: Material recycling NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA ICS 55.020 A 80 Replacing GB/T 16716.5-2010 Packaging and the environment - Part 4: Material recycling (ISO 18604:2013, Packaging and the environment - Material recycling, MOD) Issued on: DECEMBER 28, 2018 Implemented on: DECEMBER 28, 2018 Issued by: State Administration for Market Regulation;

Standardization Administration of the People's Republic of China.

Table of Contents

Foreword... 3

1 Scope... 5

2 Normative references... 5

3 Terms and definitions... 5

4 Requirements... 6

Annex A (normative) Guidelines to evaluate recyclable of packaging materials... 8

Annex B (normative) Guidelines for evaluating recycling performance... 10

Annex C (informative) Examples of determining percent recyclable declaration for packaging units... 13 Annex D (informative) Examples of declaration of packaging unit recyclable mass percentage... 15 Bibliography... 21 Annex B (normative) Guidelines for evaluating recycling performance B.1 Overview this appendix gives guidelines for evaluating recycle performance. Table B.1 is a comparison table of the relationship between packaging life cycle steps and material recycling guidelines.

B.2 Design

B.2.1 Packaging design including structure, combination, compounding and dismantling of components shall be harmonized with relevant material recycling technical specifications. Determine that the material can be recycled at a certain mass percentage. Evaluate.

- Technical problems that may occur during the recycling of substances or materials;
- Problems that may occur during the collection and sorting of materials, material compounding or packaging design before the material is recycled;
- General problems with substances or materials that may degrade in quality after regeneration.

B.2.2 When the style and material of packaging units or packaging components are collected, sorted and recycled in accordance with national, industry or international standards or specifications, the recyclable mass percentage declaration can be used as proof of recyclability. Annex C gives examples of recyclable mass percentage declaration.

The following factors affecting the material recycling process shall be evaluated.

- a) The effectiveness of material recycling depends on the input of materials with specific properties in the production process with or without primary raw materials;
- b) The proportion of each component of the multi-material package may vary, such as a small proportion of labels and a large proportion of sealing devices. The material recovery method, recycling process and emptying effect of this type of packaging will affect its recyclability;
- c) Whether the following packaging instructions comply with the technical requirements for the delivery and supply of material inputs in national or international standards for recycling processes.
 - 1) Separability of components;
 - 2) Mechanical or chemical compatibility of material combinations or material composites in recycling processes and recycling processes;
 - d) Other design factors that affect recyclability performance shall be evaluated before finalizing the packaging design.

- 1) Substances harmful to the environment listed in GB/T 16716.2;

- 2) Whether the design affecting the emptying effect meets the requirements of B.4.2.

B.3 Production

B.3.1 Raw materials and material compounding during production, transformation and filling the procurement, processing, transformation and filling operations of raw materials shall be managed effectively. There shall be no changes or deviations affecting the cycle regeneration process.

NOTE: See ISO/TR 17098.

B.3.2 Variation control during machining Materials selected at the design stage shall be suitable for recycling technology. There shall be no changes during processing that affect

the recycling process.

NOTE: This clause also applies to the selection of other ingredients (such as adhesives, printing inks, coatings) or components (such as labels, seals or other auxiliary materials).

B.4 Use

B.4.1 Basic requirements it shall meet the safety and hygiene requirements of the packaging and the needs of consumers.

B.4.2 End user emptying the shape of the primary packaging, the shape of the opening and the location of the opening shall be designed to allow the end user to use conventional methods for emptying without affecting the recycling process.

The packaging system includes primary packaging, secondary packaging (combination packaging) and tertiary packaging (transport packaging) for direct product contact. The last two types of packaging shall be easy to separate and ensure that the product is not contaminated.

B.4.3 End user classification Packaging shall be constructed so that it can be disassembled by the end user in foreseeable circumstances. Packages with multiple material combinations shall be dismantled in a collection system that meets recycling requirements.

B.5 Collection and classification Wherever possible, detailed information related to the collection and classification process shall be collected and incorporated into the design and production of the packaging.

B.6 Material identification mark B.6.1 The identification mark of the material shall be clear and legible. The main packaging material shall be identified.

B.6.2 The material identification mark of the packaging plays the following auxiliary functions in each link after use.

- Prompt processing options for the user;
- Prompt collection and classification options;
- Option to prompt material to enter recycling process.

B.6.3 Common-sense materials may not use identifying marks.

B.6.4 Material identification can be done by means of other methods, such as color or special shape of the container.