

ICS 83.140.01

CCS Y 28



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

GB 21660-2008

**General requirements for the environmental protection, safety,
identification and marking of plastic shopping bags**

塑料购物袋的环保、安全和标识通用技术要求

Issued on: April 16, 2008

Implemented on: June 1, 2008

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine;
Standardization Administration of the PRC**

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Foreword

Chapter 4 of this standard, Chapters 5 and 6 are mandatory. Appendix A of this standard is a normative appendix. The standard proposed by China National Light Industry Council. This standard by the National Standardization Technical Committee of plastic products. This standard by the Light Industry Institute of Plastics Processing Applications, Zhejiang Wafa Ecosystem Science & Technology Co., Ltd., Shenzhen Dajie Plastic Products Limited Division Shenzhen Junhao Plastic Products Co., Ltd., Shenzhen City is Wang Plastic Products Co., Ltd., Shenzhen City Jia Plastic Products Co., Ltd., Wuhan Gorgeous Environmental Protection Technology Co., Ltd. Huizhou Junhao plastics, National Plastic Products Quality Supervision and Inspection Center (Beijing) drafted. The main drafters of this standard. Chen Jiaqi, Wengyun Xuan, Chen Qian, Shen Huafeng, Wei Wenchang, Su Junming Zhang Jian Hong, Zheng Hong standard, Li meaning. Plastic shopping bags of environmental protection, safety and labeling General technical requirements

1 Scope

China's mandatory general requirements for plastic shopping bags. It specifies the environmental protection, safety and identification requirements for plastic shopping bags, with chapters 4, 5 and 6 mandatory, and it applies to bags with handles made from resin films by heat sealing, gluing or similar processing. This standard was issued in April 2008 and came into force on 1 June 2008, the same day as the national restriction on free plastic bags - the rule that banned bags thinner than 0.025 millimetres and required retailers to charge for the rest. The two documents work together: the restriction removed the giveaway bag from circulation, and this standard defines what a bag that may still be sold has to be. The thickness requirement is the centre of it, and the reason is not material consumption

but litter. A very thin bag cannot be reused, tears on first use, is too light to be collected economically and blows out of waste streams into fields, waterways and trees, where it persists. Setting a minimum thickness makes the bag durable enough to be used more than once and heavy enough to stay where it is put. Around that sit the mechanical requirements that make reuse real - the load capacity of the bag and of its handle, the drop performance, the seal strength - the safety requirements including the limits on heavy metals and on the substances that may migrate where a bag contacts food, and the marking requirements: the bag must carry its material, its nominal load and its dimensions, which is what makes the thickness and capacity claims enforceable at the point of sale. Issued on 16 April 2008 and in force since 1 June 2008.

This standard specifies the environmental protection, safety and general technical requirements for identification of plastic shopping bags. This standard applies to all kinds of resin as the main raw materials to produce films by heat sealing or gluing, etc. processing technology obtained bag plastic shopping bags.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 1844.1 Symbols of plastics and resins - Part 1. Basic polymers and their special characteristics (GB/T 1844.1- 1995, neq ISO 1043-1. 1987)

GB/T 1844.2 plastics and resins Code Part II. fillers and reinforcing materials (GB/T 1844.2-1995, neq ISO 1043-2. 1988)

GB/T 1844.3 plastics and resins Code Part III. plasticizer (GB/T 1844.3-1995, neq ISO 1043-3. 1988)

GB 9681 products of polyvinyl chloride for food packaging hygiene standards

GB 9683 Hygienic standard for composite laminated food packaging bag

GB 9685 food containers and packaging materials additives health standards

GB 9687 food packaging polyethylene moldings health standards

GB 9688 food packaging polypropylene moldings health standards

GB/T 21661-2008 plastic shopping bags

3 Containing recycled and reprocessed plastic

2 Code Plastic shopping bags plastic acronyms, names and codes are shown in Table A. 2.

Table A. Part 2 plastic shopping bags commonly used plastic raw materials mainly acronyms, names and codes

Acronyms	material name	code
PET	polyethylene terephthalate	poly (ethyleneterephthalate) 01
PE-HD	high-density polyethylene	polyethylene, highdensity 02
PVC	PVC poly (vinylchloride)	03
PE-LD	low density polyethylene	polyethylene, lowdensity 04
PP	polypropylene	polypropylene 05
EVAC	ethylene - vinyl acetate plastic	ethylene-vinylacetateplastic 32
PBAT	polyethylene terephthalate/adipate/butylene poly (butyleneadipate/terephthalate)	53
PBS	polybutylene succinate	polybutylenesuccinate

56 Table A. 2 (cont.) Acronyms material name code PCL polycaprolactone polycaprolactone
60 PE-LLD polyethylene linear low density polyethylene, linearlowdensity 72 PE-MD medium density polyethylene polyethylene, mediumdensity

73 Very low density polyethylene PE-VLD polyethylene, verylowdensity 81 PHBV polyhydroxybutyrate valerate poly- (hydroxybutyrate-co-hydroxyvalerate) 87 PLA special polylactacidorpoly lactide 92 PPC carbon dioxide and propylene oxide copolymer carbondioxideandpropylenecopolymer 99 PVAL polyvinyl alcohol, poly (vinylalcohol) 115 Such as plastic shopping bags can not be recycled recycled, the code can place empty. A material such as plastic shopping bags are not in table A. 2, its code Department can be empty or directly expressed abbreviations, acronyms representation see GB/T 1844.1, GB/T 1844.2 and GB/T 1844.3. A. 3 safety instructions Plastic shopping bags should be safety instructions and warnings, in order to protect human health and safety, such as content "in order to avoid and prevent smothering Interest rates and other hazards, away from infants and young children, "and so on. Recycled and reprocessed plastic shopping bags, in accordance with Table A.

1 Identify and clearly indicate the amount of recycled plastic. A.

4 Supplementary Description Various types of plastics can be modified or a method or process applications and other necessary supplementary explanation. It can also be functional say Ming, which uses a simple textual representation of the material specific properties, such as "biodegradable", "antibacterial", "complex" and other signs or instructions. A. 5 materials and components A.

5.1 constituents identified When the main component identification of plastic shopping bags, you should use the symbol ">" and "< " will be the main component of the material enclosed in the middle of abbreviations or codes. A.

5.2 single-component plastic shopping bag logo A single polymer or copolymer, press A.

5.1 provisions for identification. Example. low-density polyethylene plastic, expressed as > PE-LD < A.

5.3 polymer mixtures or alloys of plastic shopping bags logo Polymer mixtures or alloys of

plastic shopping bags, should be in accordance with all major quality composition ratio of the size, with the appropriate terminology abbreviations table Polymer components shown, between the polymer with the term abbreviation "+" separated, in descending order of priority, and press A.

5.1 The provision for identification. Example. a mixture of low density polyethylene and linear low density polyethylene, low-density polyethylene as the main polymer, expressed as > PE-LD + PE-LLD < A.

5.4 plastic shopping bags contain an additive identity A.

5.4.1 contain fillers or reinforcing plastic shopping bag logo Containing a single packing plastic shopping bags, packing shall be marked with a plastic polymer. After the plastic polymers Acronyms hyphen, then mark Abbreviations and symbols on the packing or the percentage of filler according to GB/T 1844.2 regulations, and press A.

5.1 The provision for identification. Example 1. Add 30% (mass fraction) of starch (St) low density polyethylene, expressed as > (PE-LD) -St30 < The mixture containing a plurality of filler, filler content percentage should be described, and use parentheses to enclose in the middle. Example 2. containing 15% (by mass) of mineral powder and 25% (by mass) of starch (St) polypropylene, expressed as > PP- (St25 + MD15) < or > PP- (St + MD) 40 < A.

5.4.2 plasticizer-containing plastic shopping bag logo Plasticizer-containing plastic shopping bags, after the polymer Acronyms hyphen symbol "P" and a plasticizer Acronyms (enclosed by parentheses To), and press A.

4 Environmental requirements

4.1 thickness of plastic shopping bags The minimum thickness of plastic shopping bags be not less than 0.025mm.

4.2 Environmental Statement Plastic shopping bags should be environmental statement, such as "to protect the environment and save resources, please use many times" and so on.

5 Safety requirements

5.1 Health and Safety Performance Direct contact with food additives, plastic shopping bags should comply with the provisions of GB 9685. Direct contact with food polyethylene plastic shopping bags and starch-based plastic shopping bags shall comply with the provisions of GB 9687. Direct contact with food polypropylene plastic shopping bags shall comply with the provisions of GB 9688. Direct contact with food polyvinyl chloride plastic shopping bags shall comply with the provisions of GB 9681. Direct contact with food composite plastic shopping bags shall comply with the provisions of GB 9683. Other materials in direct contact with food with a plastic shopping bags shall comply with the