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PEOPLE'S REPUBLIC OF CHINA**

GB/T 40006.9-2021

**Plastics - Recycled plastics - Part 9: Poly(ethylene
terephthalate) (PET) materials**

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Table of Contents

- 1 Scope
- 2 Polyalkylene terephthalate
- 3 Determination of Melting and Crystallization Temperature and Enthalpy
- 5 Thermoplastic homopolymerization And co-polyester (TP)

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 of Standardization Documents" Drafting. This document is Part 9 of GB/T 40006 "Plastic Recycled Plastics". GB/T 40006 has released the following parts.

- 1. General rules;
- 2. Polyethylene (PE) material;
- 3. Polypropylene (PP) material;
- 5. Acrylonitrile-butadiene-styrene (ABS) materials;
- 6. Polystyrene (PS) and impact-resistant polystyrene (PS-I) materials;
- 7. Polycarbonate (PC) material;
- 8. Polyamide (PA) materials;

9. Polyethylene terephthalate (PET) materials. This document was proposed by the China Petroleum and Chemical Industry Federation. This document is under the jurisdiction of the National Plastics Standardization Technical Committee (SAC/TC15). This document was drafted by: Veolia Huafei Polymer Technology (Zhejiang) Co., Ltd., Yuyao Dafa Chemical Fiber Co., Ltd., Guangzhou Customs Technology Center, Shanghai Zili Plastic Products Co., Ltd., Fujian Baichuan Resources Recycling Technology Co., Ltd., Quanzhou Canhua Renewable Resources Co., Ltd. The company, Zhejiang Haili Environmental Protection Technology Co., Ltd., China Gezhouba Group Green Park Technology Co., Ltd., and China Blue Chenguang Chengdu Inspection Technology have Co., Ltd., China Petroleum and Chemical Industry Federation, Chinese Academy of Environmental Sciences, Ningbo Customs Technology Center, Qingdao University of the People's Republic of China Hong Kong Customs, Hubei Microplastics Garden Renewable Resources Co., Ltd., Jiangxi Longyi Renewable Resources Co., Ltd., Gurit (Tianjin) Composite Materials Co., Ltd.

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The plastics industry is an important pillar industry of the national economy. With the rapid development of my country's plastics industry and the large-scale use of plastic products, plastics Recycling and recycling is an important issue facing the industry and one of the ways for the sustainable development of plastics. At the same time, it is also a solution to "white pollution", etc. Environmental issues provide an effective way. At present, there is no product standard in the field of plastic recycling in my country, and there is no standard to follow in the industry. Therefore, GB/T 40006 "Plastic Re Raw Plastics" National Standard. According to the characteristics of plastic products, this standard consists of 12 parts. General requirements for naming, terminology and odor level, restricted substance content, radioactivity, etc., the remaining parts are based on the type of plastic except for the general requirements of the Chinese It specifies the technical requirements for recycled plastics of this kind of material. This standard is composed of the following 12 parts under the general title "Plastic Recycled Plastics".

- 1.General rules;
- 2.Polyethylene (PE) material;
- 3.Polypropylene (PP) material;

1 Scope

Part 9 of China's national standard series for recycled plastics, covering PET. It specifies the classification and naming, the requirements, the test methods and the inspection rules. PET is the success story of plastics recycling: bottles are collected in enormous quantity, they are made of one polymer, they are easy to identify and separate by density, and the

recycled material has a real market in fibre, sheet and new bottles. China is both the largest producer of PET and the largest processor of recycled PET fibre. The technical constraint is intrinsic viscosity, which is the industry's proxy for molecular weight: every melt cycle and every trace of moisture cuts the chains, and the viscosity determines what the material can be made into - bottle grade needs the highest, sheet less, and fibre least. That is why the recycling chain is a cascade, and why the grading in this part is built around that number.

1.General Rules SH/T 1817-2017 Determination of residual acetaldehyde content in polyethylene terephthalate (PET) resin for plastic bottles Gas chromatography SH/T 1824-2019 Determination of antimony content in plastic thermoplastic polyester

2 Polyalkylene terephthalate

GB/T 14189-2015 Fiber grade polyester chips (PET)

GB/T 14190-2017 Fiber-grade polyester (PET) chip test method

GB/T 19466.3 Differential Scanning Calorimetry (DSC) for Plastics Part

GB/T 40006.1-2021 Plastic Recycled Plastic Part

3 Determination of Melting and Crystallization Temperature and Enthalpy

GB/T 30102-2013 Guidelines for the Recovery and Recycling of Plastic Plastic Waste

GB/T 39827.1-2021 Recycled plastic used polyethylene terephthalate (PET) bottles Part

5 Thermoplastic homopolymerization And co-polyester (TP)

GB/T 2035 Plastic Terms and Definitions

GB/T 2547 Plastic sampling method

GB/T 2918 Standard environment for condition adjustment and testing of plastic samples

GB/T 6682 Analytical laboratory water specifications and test methods

GB/T 8170 Numerical rounding rules and the expression and determination of limit values

GB/T 9345.2 Determination of ash content of plastics Part