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

GB/T 46576-2025

**Greenhouse gases - Quantification methods of carbon footprint
of products - Mechanical recycling recycled plastic products**

温室气体 产品碳足迹量化方法 物理回收再生塑料产品

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed by the China National Light Industry Council. This document was prepared by the National Technical Committee on Standardization of Plastics Products (SAC/TC48) and the National Technical Committee on Standardization of Carbon Emission Management. (SAC/TC548) are jointly under the jurisdiction of the State Administration of Taxation. This document was drafted by: China Advanced Polymer Materials Industry Innovation Center Co., Ltd., Kingfa Science & Technology Co., Ltd., and China Plastics Processing. China National Industrial Association, Shanghai Kingfa Science & Technology Development Co., Ltd., Sichuan University, Jiangxi Shengqi Technology Co., Ltd., Ningbo Dabatou Ecological Digital Technology Co., Ltd., Jiangxi Green Circular Industry Co., Ltd., Changchun Sanyou Intelligent Manufacturing Technology Development Co., Ltd., Chengdu Huantou Circular Technology Limited Liability Company, Light Industry Plastics Processing and Application Research Institute, Solid Waste and Chemicals Management Technology Center of the Ministry of Ecology and Environment, Guangdong Jushi Chemical Co., Ltd. Co., Ltd., Ningbo Changya New Materials Co., Ltd., Ningbo Lishi Daily Necessities Co., Ltd., Zhejiang Lianyun Zhihui Technology Co., Ltd., Shandong Long Changxin New Materials Technology Co., Ltd., Hunan Xinjiyuan New Materials Technology Co., Ltd., Light Industry Plastics Processing and Application Research Institute, Beijing No.

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1 Scope

GB/T 46576-2025 is the Chinese national standard covering the footprint of recycled plastic - the boundary at which the waste enters the system free of its previous life's burden, the collection, sorting, washing and extrusion, the losses at each stage, and the allocation between the recycled output and the residue. How the burden of the first life is allocated is the whole argument in recycled material footprints. First edition, in force from 1 May 2026. Issued on 31 October 2025, it has been in force since 1 May 2026.

This document outlines the principles for quantifying the carbon footprint of physically recycled plastic products, describes the quantification methods, and specifies the procedures for preparing carbon footprint reports. content. This document applies to the quantification of the carbon footprint of physically recycled plastic products.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 2035 Plastics Terminology

GB/T 24044 Requirements and Guidelines for Environmental Management Life Cycle Assessment

GB/T 24050 Environmental Management Terminology

GB/T 24067 Requirements and Guidelines for Quantifying the Carbon Footprint of Greenhouse Gas Products

GB/T 32150 General Rules for Greenhouse Gas Emission Accounting and Reporting by Industrial Enterprises

3 Terms and Definitions

The terms and definitions defined in GB/T 2035, GB/T 24044, GB/T 24050, GB/T 24067, and GB/T 32150, as well as the following terms and definitions, shall apply. Used in this

document.

3.1 Waste plastic Discarded plastic products and materials, including scraps and offcuts generated during the production and processing of plastic raw materials and products. Scrap materials and defective products, etc. [Source: GB/T 37821-2019, 3.1]

3.2 Product System A collection of unit processes that have basic flow and product flow, as well as one or more specific functions, and can simulate the product lifecycle. [Source: GB/T 24044-2008, 3.28]

3.3 Mechanical recycling The physical treatment of waste plastics, such as sorting, washing, crushing, melting, and granulation, transforms them into recycled materials or products. The chemical structure of the material did not change significantly during the process.

3.4 Plastics processed from waste plastics and used for their original purpose or other purposes.