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

GB/T 19811-2026

Replacing GB/T 19811-2005

**Plastics - Determination of the degree of disintegration of
plastic materials under defined composting conditions in a
pilot-scale test**

塑料 在定义堆肥化中试条件下塑料材料崩解程度的测定
(English Translation)

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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.

This document supersedes GB/T 19811-2005 "Determination of the Degree of Disintegration of Plastic Materials under Defined Composting Pilot-Scale Conditions", and is consistent with...

Compared with GB/T 19811-2005, apart from structural adjustments and editorial changes, the main technical changes are as follows.

- a) The definition of "biological processing capacity" has been removed (see 3.1 in the 2005 edition);
- b) The minimum volume of the compost bin has been changed (see 5.1.2.1, 2005 version 5.1.2.1);
- c) A "Warnings" section has been added to the test procedure (see Chapter 6);
- d) The minimum wet weight of biomass waste has been changed, and the option for mixed-form test materials in toxicity testing has been removed (see 6.1.1.4).

(Version 6.1.1.4 in the 2025 version)

- e) The required control temperature range for composting at different stages for different test objectives has been increased (see 6.2.2.3).

This document is equivalent to ISO 16929:2021 "Plastics - Determination of the degree of disintegration of plastic materials under defined composting pilot conditions".

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 and is under the jurisdiction of the National Technical

Committee on Standardization of Bio-based Materials and Degradable Products (SAC/TC380).

Introduction

Biological treatment of biodegradable plastic materials includes aerobic stacks in well-functioning municipal or industrial biomass waste treatment facilities.

Fertilizer. The determination of the degree of disintegration of plastic materials under defined composting pilot conditions is a key component of testing protocols for evaluating the industrial compostability of such materials.

This is an important step.

For materials explicitly stated to be suitable for industrial composting, the composting system must not only require disintegration but also biodegradability (test methods based on...).

(Relevant standards), and must be completely biodegradable during the final use of compost. Furthermore, compost must meet relevant quality standards, including...

It has low limits for controlled heavy metals, no ecotoxicity, and no clearly distinguishable residues.

Plastics under defined composting pilot conditions Determination of the degree of disintegration of plastic materials

1 Scope

This document describes a method for determining the degree of disintegration of plastic materials in aerobic composting tests under defined pilot-scale conditions. This document is for...

This is part of the overall assessment scheme for compostability in the plastics industry as specified in ISO 17088.

The test methods specified in this document can be used to determine the effects on test materials during composting and the quality of the compost obtained, but not...

It can be used to determine the aerobic biodegradability of test materials.

Note: Other test methods can be used to determine aerobic biodegradability (such as ISO 14851, ISO 14852, ISO 14855-1, ISO 14855-2).

2 Normative references

This document has no normative references.

3 Terms and Definitions

The following terms and definitions apply to this document.

The URLs for the terminology databases maintained by ISO and IEC for standardization are as follows.

Degradation

An irreversible process that leads to significant changes in the structure of a material. Its main characteristic is the loss of properties (such as integrity, molecular weight, structure, or mechanism).

(Mechanical strength) and/or breakage. This process is affected by environmental conditions, requires a period of time, and includes one or more steps.

biodegradation

An irreversible degradation process (3.1) caused by biological activities, especially the action of enzymes, that results in significant changes in the chemical structure of materials.

Disintegration

The material physically decomposes into very small fragments.

compost

An organic soil conditioner obtained from the biodecomposition of the mixture (3.2). This mixture mainly consists of plant residues, and sometimes also contains some...

Organic matter and certain inorganic matter.

composting

An aerobic treatment method for producing compost (3.4).