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

GB/T 44468-2024

**Testing method for intuitive and qualitative analysis of plastic
degradation rate under artificially simulated marine
environmental conditions**

人工模拟海洋环境条件下塑料降解速率直观和定性分析方法

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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 for standardization documents" Drafting is required.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed and coordinated by the National Technical Committee for Standardization of Bio-based Materials and Degradable Products (SAC/TC 380).

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Plastic degradation under artificial simulated marine environment conditions Rate intuitive and qualitative analysis methods

1 Scope

This document describes a method for the intuitive and qualitative analysis of the degradation rate and extent of disintegration of plastic materials under artificial simulated marine environmental conditions.

This document is suitable for the rapid characterization of the propensity of plastic materials to degrade and disintegrate in the marine environment.

NOTE. The degradation tests specified in this document involve plastic material located at the interface between sandy sediment and seawater (a situation similar to the seafloor where most debris is sinking, accumulating and degrading on the sea floor).

2 Normative references

GB/T 11165-2005

GB/T 12763.4

GB/T 19811

GB/T 22592

GB/T 41639

GB/T 43289-2023

ISO 10390

ISO 10694

ISO 11261

3 Terms and definitions

The terms and definitions defined in GB/T 43289-2023 apply to this document.

4 Principle

The test uses image analysis (photogrammetry) to analyze images of the test material to determine the relationship between the disintegration area and the total area.

The disintegration of the test material was determined by the area loss (%).

Disintegration of test specimens shall be determined and reported after 1 year of exposure at the sediment/seawater interface.

If the documentation is consistent, disintegration studies may be performed on other samples with exposure times less than or greater than 1 year.

Although the disintegration of the test material will continue to increase with the increase in exposure period, the extrapolation of disintegration beyond the maximum exposure period is invalid.