

Packaging — Preliminary evaluation of the disintegration of packaging materials under simulated composting conditions in a laboratory scale test

The European Standard EN 14806:2005 has the status of a
British Standard

ICS 55.040; 13.030.99

National foreword

This British Standard is the official English language version of EN 14806:2005.

The UK participation in its preparation was entrusted to Technical Committee PKW/4, Packaging and the environment, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the *BSI Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 18, an inside back cover and a back cover.

The BSI copyright notice displayed in this document indicates when the document was last issued.

Amendments issued since publication

Amd. No.	Date	Comments

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 12 December 2005

© BSI 12 December 2005

English Version

**Packaging - Preliminary evaluation of the disintegration of
packaging materials under simulated composting conditions in a
laboratory scale test**

Emballage - Evaluation préliminaire de la désintégration
des matériaux d'emballage dans des conditions simulées
de compostage dans le cadre d'un essai à l'échelle du
laboratoire

Verpackung - Vorbeurteilung des AuflöSENS von
Verpackungsmaterial unter simulierten
Kompostierungsbedingungen im Labormaßstab

This European Standard was approved by CEN on 13 June 2005.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

	Page
Foreword	3
Introduction.....	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Principle.....	6
5 Synthetic solid waste.....	6
6 Composting reactor	7
7 Procedure	7
8 Monitoring the composting process	9
9 Chemical analysis	10
10 Termination of the test	10
11 Calculation of degree of disintegration.....	11
12 Validity of the test	11
13 Test report	12
Annex A (informative) Synthetic Waste Composition.....	13
Annex B (informative) Test Set-up	14
Annex C (informative) Final Compost Characterisation after Sieving.....	15
Annex D (informative) Water Addition and Turning of Composting Mass	16
Annex E (informative) Degree of Disintegration.....	17
Bibliography	18

Foreword

This European Standard (EN 14806:2005) has been prepared by Technical Committee CEN/TC 261 "Packaging", the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 2006, and conflicting national standards shall be withdrawn at the latest by January 2006.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

The method does not require special bioreactors and it is well suited to be run at laboratory scale in any general purpose laboratory. It requires the use of a standard, homogeneous synthetic waste. The synthetic waste components are dry, clean, safe products which can be stored in the laboratory without any problem neither of smell nor of health. The synthetic waste is of constant composition and devoid of any undesired packaging material, which could be erroneously identified as test material at the end of testing, altering the final evaluation. The bioreactors are small, the amount of synthetic waste to be composted is also very small (about 3 L) and, likewise, the amount of test material's specimens is very limited, with an overall simplification of the test procedures. The test method is not aimed at determining the biodegradability of packaging materials under composting conditions and does not cover environmental safety and ecotoxicity issues. Further testing is necessary for claiming compostability.

1 Scope

This laboratory scale test method using synthetic waste aims at simulating the environmental conditions found in industrial composting plants. Packaging materials exposed to this environment can be preliminary assessed for disintegrability. A negative result does not necessarily mean that the test material is not disintegrating under industrial composting conditions. This test does not replace the acceptance disintegration test as specified in EN 14045, in accordance with EN 13432.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3310-1, *Test sieves — Technical requirements and testing — Part 1: Test sieves of metal wire cloth*.

EN 13193:2000, *Packaging — Packaging and the environment — Terminology*.

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 13193:2000 and the following apply.

3.1

compost

organic soil conditioner obtained by biodegradation of a mixture consisting principally of vegetable residues, occasionally with other organic material and having a limited mineral content

3.2

compostability

potential of a material to be biodegraded in a composting process

3.3

composting

aerobic process designed to produce compost

3.4

disintegration

physical falling apart of a material into very small fragments

3.5

dry mass

mass of a sample measured after drying. It is expressed as a percentage of the mass of the wet sample

3.6

total dry solids

amount of solids obtained by taking a known amount of test material or compost and drying at about 105 °C to constant weight.

3.7

volatile solids

amount of solids obtained by subtracting the residue of a known amount of test material or compost after incineration at about (550 ± 10) °C from the total dry solids content of the same sample

NOTE The volatile-solids content is representative for the amount of organic matter present.