AS ISO 16929—2008

Australian Standard®

Plastics—Determination of the degree of disintegration of plastic materials under defined composting conditions in a pilot-scale test (ISO 16929:2002, MOD)

This Australian Standard® was prepared by Committee EV-017, Degradability of Plastics. It was approved on behalf of the Council of Standards Australia on 21 December 2007.
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The following are represented on Committee EV-017:

- Australian Chamber of Commerce and Industry
- Australian Conservation Foundation
- Australian Retailers Association
- Department of the Environment and Heritage (Federal)
- Keep Australia Beautiful National Association
- NSW Advisory Council on Recreational Fishing
- National Association of Testing Authorities Australia
- Packaging Council of Australia
- Plastics and Chemicals Industries Association
- Queensland University of Technology
- Swinburne University of Technology
- Waste Management Association of Australia

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PREFACE

This Standard was prepared by the Standards Australia Committee EV-017, Degradability of Plastics.

This Standard is an adoption with national modifications, and has been reproduced from ISO 16929:2002, *Plastics—Determination of the degree of disintegration of plastic materials under defined composting conditions in a pilot-scale test*.

The source text has been modified as follows to prevent undesirable acceleration or retardation of the test result and suit local conditions in Australia

The objective of this Standard is to be used to determine the degree of disintegration of plastic materials in a pilot-scale composting test under defined conditions.

As this Standard is reproduced from an international standard, the following applies:

(a) Its number appears on the cover and title page while the international standard number appears only on the cover.

(b) In the source text 'this International Standard' should read 'this Australian Standard'.

(c) A full point substitutes for a comma when referring to a decimal marker.

(d) *Delete* the text of Clause 6.1.1.1 and replace with 'See Appendix ZA for requirements on the recipe for compost.'

(e) A new Appendix ZA has been added at the end of the source text for application in Australia.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard ISO		*Australian Standard* AS ISO	
14852	Determination of the ultimate aerobic biodegradability of plastic material in an aqueous medium—Method by analysis of evolved carbon dioxide	14852	Determination of the ultimate aerobic biodegradability of plastic material in an aqueous medium—Method by analysis of evolved carbon dioxide
14855	Determination of the ultimate aerobic biodegradability and disintegration of plastic materials under controlled composting conditions—Method by analysis of evolved carbon dioxide	14855	Determination of the ultimate aerobic biodegradability and disintegration of plastic materials under controlled composting conditions—Method by analysis of evolved carbon dioxide

Only international references that have been adopted as Australian Standards have been listed.

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INTRODUCTION

The biological treatment of biodegradable plastic materials includes aerobic composting in well operated, municipal or industrial biological waste treatment facilities. Determining the degree of disintegration of plastic materials in a pilot-scale plant is an important step within a test scheme to evaluate the compostability of such materials.

AUSTRALIAN STANDARD

Plastics—Determination of the degree of disintegration of plastic materials under defined composting conditions in a pilot-scale test (ISO 16929:2002, MOD)

WARNING — Compost may contain potentially pathogenic organisms. Therefore appropriate precautions should be taken when handling it.

1 Scope

This International Standard is used to determine the degree of disintegration of plastic materials in a pilot-scale aerobic composting test under defined conditions. It forms part of an overall scheme for the evaluation of the compostability of plastics as outlined in ISO 17088, *Plastics — Evaluation of compostability — Test scheme for final acceptance* (currently under preparation). The test method laid down in this International Standard can also be used to determine the influence of the test material on the composting process and the quality of the compost obtained. It cannot be used to determine the aerobic biodegradability of a test material. Other methods are available for this (see e.g. ISO 14851, ISO 14852 or ISO 14855).

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 3310-2, *Test sieves — Technical requirements and testing — Part 2: Test sieves of perforated metal plate*

ISO 5663, *Water quality — Determination of Kjeldahl nitrogen — Method after mineralization with selenium*

ISO 7150-1, *Water quality — Determination of ammonium — Part 1: Manual spectrometric method*

ISO 10304-2, *Water quality — Determination of dissolved anions by liquid chromatography of ions — Part 2: Determination of bromide, chloride, nitrate, nitrite, orthophosphate and sulfate in waste water*

ISO 10390, *Soil quality — Determination of pH*

ISO 11465, *Soil quality — Determination of dry matter and water content on a mass basis — Gravimetric method*

ISO 14851, *Determination of the ultimate aerobic biodegradability of plastic materials in an aqueous medium — Method by measuring the oxygen demand in a closed respirometer*

ISO 14852, *Determination of the ultimate aerobic biodegradability of plastic materials in an aqueous medium — Method by analysis of evolved carbon dioxide*

ISO 14855, *Determination of the ultimate aerobic biodegradability and disintegration of plastic materials under controlled composting conditions — Method by analysis of evolved carbon dioxide*