Australian Standard®

Biodegradable plastics—Biodegradable plastics suitable for composting and other microbial treatment

This Australian Standard® was prepared by Committee EV-017, Degradability of Plastics. It was approved on behalf of the Council of Standards Australia on 17 October 2006.
This Standard was published on 8 November 2006.

The following are represented on Committee EV-017:

- Australian Chamber of Commerce and Industry
- Australian Conservation Foundation Inc
- 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 Incorporated
- Swinburne University of Technology
- Waste Management Association of Australia

This Standard was issued in draft form for comment as DR 06402.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

Keeping Standards up-to-date

Australian Standards® are living documents that reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued.

Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments that may have been published since the Standard was published.

Detailed information about Australian Standards, drafts, amendments and new projects can be found by visiting **www.standards.org.au**

Standards Australia welcomes suggestions for improvements, and encourages readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at **mail@standards.org.au**, or write to Standards Australia, GPO Box 476, Sydney, NSW 2001.

Australian Standard®

Biodegradable plastics—Biodegradable plastics suitable for composting and other microbial treatment

First published as AS 4736—2006.
Reissued incorporating Amendment No. 1 (October 2009).

Published by Standards Australia, GPO Box 476, Sydney, NSW 2001, Australia

ISBN 0 7337 7844 5

PREFACE

This Standard was prepared by the Standards Australia Committee EV-017, Degradability of Plastics in response to assist authorities regulate polymeric materials entering into the Australian market, and ensure product quality with respect to biodegradability and toxicity claims.

This Standard incorporates Amendment No. 1 (October 2009). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

This Standard forms part of a series of test methods and performance standards to enable certification bodies to validate and, if appropriate, support claims.

The Environment Protection and Heritage Council agreed to initiate the development of Australian Standards in the area of degradation of plastics for disposal environments in Australia.

Accumulation of polymeric waste materials in the environment can be reduced by composting, and other aerobic and anaerobic microbial degradation.

The term 'informative' has been used in this Standard to define the application of the appendix to which it applies. An 'informative' appendix is only for information and guidance.

The Committee referred to EN 13432:2000, *Packaging—Requirements for packaging recoverable through composting and biodegradation—Test scheme and evaluation criteria for the acceptance of packaging*, in the preparation of this Standard.

Test methods and limit values for compost tests may be introduced into future revisions of this Standard as more experience is gained.

CONTENTS

STANDARDS AUSTRALIA

Australian Standard

Biodegradable plastics—Biodegradable plastics suitable for composting and other microbial treatment

1 SCOPE

This Standard specifies requirements and procedures to determine the compostability, or anaerobic biodegradation, of plastics by addressing biodegradability, disintegration during biological treatment, effect on the biological treatment process and effect on the quality of the resulting compost.

This Standard provides a basis to allow labeling of materials or products made from plastics as 'compostable', for use in such facilities as municipal or industrial composters.

This Standard applies to the processing of plastics in controlled waste treatment plants.

2 REFERENCED DOCUMENTS*

The following documents are referred to in this Standard:

AS	
4454	Composts, soil conditioners and mulches
AS ISO	
14852	Plastic materials—Determination of the ultimate aerobic biodegradability in an aqueous medium—Method by analysis of evolved carbon dioxide
14855	Plastic materials—Determination of the ultimate aerobic biodegradability and disintegration under controlled composting conditions—Method by analysis of evolved carbon dioxide
ISO	
10634	Water quality—Guidance for the preparation and treatment of poorly water-soluble organic compounds for the subsequent evaluation of their biodegradability in an aqueous medium
14851	Determination of the ultimate aerobic biodegradability of plastic materials in an aqueous medium—Method by measuring the oxygen demand in a closed respirometer
14853	Plastics—Determination of the ultimate anaerobic biodegration of plastic materials in an aqueous system—Method by measurement of biogas production
16929	Plastics—Determination of the degree of disintegration of plastic materials under defined composting conditions in a pilot-scale test
ASTM	
E1676	Standard guide for conducting laboratory soil toxicity or bioaccumulation tests with the Lumbricid Earthworm *Eisenia fetida* and the Enchytraeid Potworm *Enchytraeus albidus*

* For additional information see Appendix C.

