

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
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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.

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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.

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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 biodegradation 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.