AS ISO 14855—2005
ISO 14855:1999

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Australian Standard™

Plastic materials—Determination of the ultimate aerobic biodegradability and disintegration under controlled composting conditions—Method by analysis of evolved carbon dioxide

STANDARDS AUSTRALIA

This Australian Standard was prepared by Committee EV-017, Degradability of Plastics. It was approved on behalf of the Council of Standards Australia on 27 January 2005.
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Australian Chamber of Commerce
Australian Conservation Foundation Inc
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Keep Australia Beautiful National Association
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PREFACE

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

This Standard is identical with and has been reproduced from ISO 14855:1999*, Determination of the ultimate aerobic biodegradability and disintegration of plastic materials under controlled composting conditions—Method by analysis of evolved carbon dioxide.*

The objective of this Standard is to specify a method for the determination of the ultimate aerobic biodegradability of plastics, based on organic compounds, under controlled composting conditions by measurement of the amount of carbon dioxide evolved and the degree of disintegration of the plastic at the end of the test.

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

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(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) An upper case 'L' substitutes for 'l' when referring the symbol for the unit, litres.

Committee EV-017 agreed that Clause 8.1 of the ISO Standard contains an error and should be corrected. In Clause 8.1, Paragraph 4 – 'the volatile solids no more than about 15%' should be deleted and replaced with 'the volatile solids no less than about 15%'.

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.

None of the documents referenced in the source document has been adopted as Australian Standards.

AUSTRALIAN STANDARD

Plastic materials—Determination of the ultimate aerobic biodegradability and disintegration under controlled composting conditions—Method by analysis of evolved carbon dioxide

WARNING — Sewage, activated sludge, soil and compost may contain potentially pathogenic organisms. Therefore appropriate precautions should be taken when handling them. Toxic test compounds and those whose properties are unknown should be handled with care.

1 Scope

This International Standard specifies a method for the determination of the ultimate aerobic biodegradability of plastics, based on organic compounds, under controlled composting conditions by measurement of the amount of carbon dioxide evolved and the degree of disintegration of the plastic at the end of the test. This method is designed to simulate typical aerobic composting conditions for the organic fraction of solid mixed municipal waste. The test material is exposed to an inoculum which is derived from compost. The composting takes place in an environment wherein temperature, aeration and humidity are closely monitored and controlled. The test method is designed to yield the percentage conversion of the carbon in the test material to evolved carbon dioxide as well as the rate of conversion.

The conditions described in this International Standard may not always correspond to the optimum conditions for the maximum degree of biodegradation to occur.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 5663:1984, *Water quality — Determination of Kjeldahl nitrogen — Method after mineralization with selenium.*

ISO 8245:1999, *Water quality — Guidelines for the determination of total organic carbon (TOC) and dissolved organic carbon (DOC).*

3 Definitions

For the purposes of this International Standard, the following definitions apply:

3.1
ultimate aerobic biodegradation

the breakdown of an organic compound by microorganisms in the presence of oxygen into carbon dioxide, water and mineral salts of any other elements present (mineralization) plus new biomass

3.2
composting

an aerobic process designed to produce compost