



Designation: D6400 – 04

Standard Specification for Compostable Plastics¹

This standard is issued under the fixed designation D6400; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope*

1.1 This specification covers plastics and products made from plastics that are designed to be composted in municipal and industrial aerobic composting facilities.

1.2 This specification is intended to establish the requirements for labeling of materials and products, including packaging made from plastics, as “compostable in municipal and industrial composting facilities.”

1.3 The properties in this specification are those required to determine if plastics and products made from plastics will compost satisfactorily, including biodegrading at a rate comparable to known compostable materials. Further, the properties in the specification are required to assure that the degradation of these materials will not diminish the value or utility of the compost resulting from the composting process.

1.4 The following safety hazards caveat pertains to the test methods portion of this standard: *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate health and safety practices and to determine the applicability of regulatory limitations prior to use.*

NOTE 1—No equivalent ISO specifications exist for this standard.

2. Referenced Documents

2.1 ASTM Standards:²

D883 Terminology Relating to Plastics

D5338 Test Method for Determining Aerobic Biodegradation of Plastic Materials Under Controlled Composting Conditions

D6002 Guide for Assessing the Compostability of Environmentally Degradable Plastics

¹ This specification is under the jurisdiction of ASTM Committee D20 on Plastics and is the direct responsibility of Subcommittee D20.96 on Environmentally Degradable Plastics and Biobased Products.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

2.2 Organization for Economic Development (OECD) Standard:³

OECD Guideline 208 Terrestrial Plants, Growth Test

2.3 Comite Europeen de Normalisation (CEN):⁴

EN 13432: 2000, 2000–CEN/TC 261/SC 4 N 99 Packaging—Requirements for Packaging Recoverable through Composting and Biodegradation—Test Scheme and Evaluation Criteria for the Final Acceptance of Packaging (EN 13432)

EN 13432 Requirements for Packaging Recoverable through Composting and Biodegradation—Test Scheme and Evaluation Criteria for the Final Acceptance of Packaging

2.4 ISO Standard:⁴

ISO 14855 Evaluation of the Ultimate Aerobic Biodegradability and Disintegration of Plastics under Controlled Composting Conditions—Method by Analysis of Evolved Carbon Dioxide

ISO 16929 Plastics—Determination of the Degree of Disintegration of Plastic Materials under Defined Composting Conditions in a Pilot-Scale Test

2.5 U.S. Government Standard:⁵

40 CFR Part 503.13 Standards for the Use or Disposal of Sewage Sludge

2.6 Canadian Government Standard:⁶

Trade Memorandum T-4-93 Standards for Metals in Fertilizers and Supplements

3. Terminology

3.1 Definitions—Definitions appearing in this specification are found in Terminology D883, unless otherwise noted.

3.1.1 *biodegradable plastic*—a degradable plastic in which the degradation results from the action of naturally occurring microorganisms such as bacteria, fungi, and algae.

³ Available from Organization for Economic Development, Director of Information, 2 rue Andre' Pascal, 75775 Paris Cedex 16, France.

⁴ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036.

⁵ *Code of Federal Regulations*, available from U.S. Government Printing Office, Washington, DC 20402.

⁶ Available from the Canadian Food Inspections Agency, Fertilizer Section, Ottawa, Canada

*A Summary of Changes section appears at the end of this standard.