



Designation: D5998 – 03

# Standard Specification for Molded Polyethylene Shipping and Storage Drums<sup>1</sup>

This standard is issued under the fixed designation D5998; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope\*

1.1 This specification covers self supporting, molded polyethylene, tight head drums designed for surface and air shipment, ranging in size from 5 gal (19 L) to and including 55 gal (208 L).

1.2 The polyethylene plastics to be used may be virgin plastics or recycled plastics.<sup>2</sup>

NOTE 1—There is no similar or equivalent ISO standard.

NOTE 2—This standard is intended to replace MIL-D-43703C.

1.3 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

1.4 *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 safety and health practices and determine the applicability of regulatory limitations prior to use.*

## 2. Referenced Documents

2.1 *ASTM Standards:*<sup>3</sup>

D883 Terminology Relating to Plastics

D1972 Practice for Generic Marking of Plastic Products

D3951 Practice for Commercial Packaging

D4504 Specification for Molded Polyethylene Open-Head-Pails for Industrial Shipping of Nonhazardous Goods

D4919 Guide for Testing of Hazardous Materials Packagings

D5033 Guide for Development of ASTM Standards Relating to Recycling and Use of Recycled Plastics<sup>4</sup>

2.2 *ANSI Standards:*<sup>5</sup>

ANSI Z1.4 Sampling Procedures and Tables for Inspection by Attributes

2.3 *Federal Regulations:*<sup>6</sup>

21 CFR 121 Federal Food, Drug, and Cosmetic Act and Regulations Promulgated Thereunder

21 CFR 177

49 CFR 173 Shippers—General Requirements for Shipments and Packagings

49 CFR 178 Specifications for Packaging

2.4 *Other:*

National Motor Freight Classification (NMFC-100)

Uniform Freight Classification (UFC)

2.5 *National Sanitation Foundation International:*<sup>7</sup>

NSF Standard No. 2 Food Service Equipment

NSF Standard No. 51 Plastics Materials and Components Used in Food Service Equipment

## 3. Terminology

3.1 For definitions or terms, see Terminology D883 or Guide D5033.

## 4. Requirements

4.1 *Materials*—Drums shall conform to 49 CFR 173.24 and 178.509 Type 1H1. The drum material and components shall conform to the Federal Food, Drug and Cosmetic Act, Food Additive Amendment 21 CFR 177, 1520 and NSF International Standard No. 2 and 51 when used for food products. Recycled plastic may be used when practical as long as the finished product meets the requirements of this specification.

4.2 *Design and Construction*—Drums shall conform to 49 CFR 173.24 and 178.509, Type 1H1. Drums shall be molded of materials specified in 4.1. Five gallon (19 L) drums shall be furnished with one or two carrying handles. Fifteen gallon (57 L) drums shall be furnished with one or two handles on the top or without handles. Drums greater than 20 gal shall be fabricated so that they may be individually handled by customary handling devices. Handling devices shall withstand the combined lifted weight of the drum and contents. Rolling rings on drums are optional, and when specified, a minimum of two are required.

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee D20 on Plastics and is the direct responsibility of Subcommittee D20.15 on Thermoplastic Materials.

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<sup>2</sup> As defined in Guide D5033.

<sup>3</sup> 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.

<sup>4</sup> Withdrawn. The last approved version of this historical standard is referenced on www.astm.org.

<sup>5</sup> Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036.

<sup>6</sup> Available from U.S. Government Printing Office Superintendent of Documents, 732 N. Capitol St., NW, Mail Stop: SDE, Washington, DC 20401.

<sup>7</sup> Available from NSF International, P.O. Box 130140, Ann Arbor, MI 48113-0140.

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