This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

Designation: D4919 – 17

Standard Guide for Testing of Hazardous Materials (Dangerous Goods) Packagings[1]

This standard is issued under the fixed designation D4919; 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.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope*

1.1 The main focus of this guide is to identify the key information required for United Nations (UN) packaging certification to ensure the selected packaging will be certified to the appropriate level for its intended use. This document also provides guidance for locating relevant sections of the United States Department of Transportation Title 49 Code of Federal Regulations (CFR). Consult with a regulatory specialist whenever needed.

1.2 This guide is intended to assist in determining the appropriate performance tests required to certify packaging designs to the United States Department of Transportation Title 49 Code of Federal Regulations performance oriented packaging standards based on the United Nations Recommendations on the Transport of Dangerous Goods..

1.3 This guide covers the testing for transportation of hazardous materials packagings for net masses not exceeding 400 kg (880 lb) or capacities not exceeding 450 L (119 gal), excepting packagings for infectious substances, radioactive materials, cylinders and other receptacles for gases.

1.4 This guide does not replace domestic or international regulatory requirements for hazardous materials packaging but is strongly recommended to be used in conjunction with those regulations.

1.5 The user of this guide must be trained in accordance with the United States Department of Transportation Title 49 Code of Federal Regulations (49 CFR) as required by 172.700 and should be familiar with other applicable hazardous materials regulations such as: International Civil Aviation Organization (ICAO) Technical Instructions for the Safe Transport of Dangerous Goods by Air, and the International Maritime Dangerous Goods Code (IMDG Code) and carrier rules such as International Air Transport Association (IATA) Dangerous Goods Regulations.

1.6 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.7 *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 requirements prior to use.*

1.8 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

D323 Test Method for Vapor Pressure of Petroleum Products (Reid Method)

D642 Test Method for Determining Compressive Resistance of Shipping Containers, Components, and Unit Loads

D685 Practice for Conditioning Paper and Paper Products for Testing

D996 Terminology of Packaging and Distribution Environments

D999 Test Methods for Vibration Testing of Shipping Containers

D4169 Practice for Performance Testing of Shipping Containers and Systems

D4332 Practice for Conditioning Containers, Packages, or Packaging Components for Testing

D4359 Test Method for Determining Whether a Material Is a Liquid or a Solid

D4577 Test Method for Compression Resistance of a Container Under Constant Load

[1] This guide is under the jurisdiction of ASTM Committee D10 on Packaging and is the direct responsibility of Subcommittee D10.22 on Hazardous Materials.

Current edition approved April 1, 2017. Published June 2017. Originally approved in 1989. Last previous edition approved in 2008 as D4919 – 03(2008) which was withdrawn January 2017 and reinstated in April 2017. DOI: 10.1520/D4919-17.

[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.

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

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