~~Designation:D2916–04~~ Designation: D 2916 – 09

Standard Specification for Isophorone[1]

This standard is issued under the fixed designation D 2916; 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 isophorone[2] (98 % grade) for use in paint, varnish, lacquer, and related products.

~~1.2The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.~~

~~1.3The following applies to all specified limits in this standard; for purposes of determining conformance with this standard, an observed value or a calculated value shall be rounded off "to the nearest unit" in the last right-hand digit used in expressing the specification limit, in accordance with the rounding-off method of Practice E29.~~

~~1.4~~

1.2 The following applies to all specified limits in this standard; for purposes of determining conformance with this standard, an observed value or a calculated value shall be rounded off "to the nearest unit" in the last right-hand digit used in expressing the specification limit, in accordance with the rounding-off method of Practice E 29.

1.3 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.4 For specific hazard information and guidance, see the supplier's Material Safety Data Sheet for materials listed in this specification.

1.5 *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.*

~~1.5For specific hazard information and guidance, see the supplier's Material Safety Data Sheet for materials listed in this specification.~~

2. Referenced Documents

2.1 *ASTM Standards:*[3]

D 268 Guide for Sampling and Testing Volatile Solvents and Chemical Intermediates for Use in Paint and Related Coatings and Material

D 1078 Test Method for Distillation Range of Volatile Organic Liquids

D 1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)

D 1364 Test Method for Water in Volatile Solvents (Karl Fischer Reagent Titration Method)

D 1613 Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used ~~I~~in Paint, Varnish, Lacquer, and Related Products

D 2192 Test Method for Purity of Aldehydes and Ketones

D 4052 Test Method for Density and Relative Density of Liquids by Digital Density Meter

D 5386 Test Method for Color of Liquids Using Tristimulus Colorimetry

~~E1Specification for ASTM Thermometers~~

~~E~~ 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

E 300 Practice for Sampling Industrial Chemicals

2.2 *U.S. Federal Specification:*[4]

PPP-C-2020 Chemicals, Liquid, Dry, and Paste: Packaging of

[1] This specification is under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and ~~Materials~~Applications and is the direct responsibility of Subcommittee D01.35 on Solvents, Plasticizers, and Chemical Intermediates.

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[2] This compound is also known under the name 3,5,5-trimethyl-2-cyclohexene-1-one.

[3] 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.

[4] Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098, http://www.dodssp.daps.mil.

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

3. Properties

3.1 Isophorone shall conform to the following requirements:

Apparent specific gravity:	
20/20°C	0.921 to 0.923
or	
25/25°C	0.918 to 0.920
~~Color, Pt-Co scale, max~~	~~100~~
Color, Pt-Co scale, max (Note 1)	100
Distillation, °C	
Initial boiling point, min	210
95 % point, max	218
Purity, weight % min	98
Acidity as acetic acid, weight %, max	0.02
Water, weight %, max	0.1

NOTE 1—Instrumental Pt-Co color determined by Test Method D 5386 have been shown to have no statistically significant difference from Pt-Co color determined by Test Method D 1209. However, it is not known whether isophorone was part of the sample set included in the interlaboratory study.

4. Sampling

4.1 Sample the material in accordance with Practice E 300.

5. Test Methods

5.1 The properties enumerated in this specification shall be determined in accordance with the following ASTM test methods:

5.1.1 *Apparent Specific Gravity*—Determine the apparent specific gravity by any method that is accurate to the third decimal place, the temperature of both specimen and water being 20 or 25°C. See either the Specific Gravity section of Guide D 268 or Test Method D 4052.

5.1.2 *Color*~~—Test Method D1209.~~

~~5.1.3~~—*Test Method D 1209 (see Note 1).*

5.1.3 *Distillation Range*—Test Method D 1078 ~~, using an ASTM Solvents Distillation Thermometer 105C having a range from 198 to 252°C and conforming to the requirements in Specification E1.~~ using a temperature measuring device having a range of 198 to 252°C and a resolution of 0.1°C.

5.1.4 *Purity*—Test Method D 2192.

5.1.5 *Acidity*—Test Method D 1613.

5.1.6 *Water*—Test Method D 1364.

6. Packaging and Package Marking

6.1 Package size shall be agreed upon between the purchaser and the supplier.

6.2 Packaging shall conform to applicable carrier rules and regulations or, when specified, shall conform to Fed. Spec. PPP-C-2020.

7. Keywords

7.1 isophorone; ketones; solvents

SUMMARY OF CHANGES

~~Subcommittee D01.35 has identified the location of selected changes to this standard since the last issue (D2916–88(2001)) that may impact the use of this standard.~~

~~*(1)* Permitted apparent specific gravity to be run at either 20/20°C or 25/25°C in~~

Committee D01.35 has identified the location of selected changes to this standard since the last issue (D 2916 - 04) that may impact the use of this standard. (Approved June 1, 2009.)

(*1*) Added new Note 1 to 3.1. ~~(2) Added Practice E29 to the Scope and Referenced Documents sections.~~

(*2*) Added Test Method D 5386 to list of Referenced Documents.

(*3*) Referenced new Note 1 in 5.1.2.

(*4*) Revised 5.1.3.

(*5*) Removed Specification E 1 from 2.1.