



Designation: D 2916 – 88 (Reapproved 1996)

AMERICAN SOCIETY FOR TESTING AND MATERIALS
100 Barr Harbor Dr., West Conshohocken, PA 19428
Reprinted from the Annual Book of ASTM Standards. Copyright ASTM

Standard Specification for Isophorone¹

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 isophorone² (98 % grade) for use in paint, varnish, lacquer, and related products.

1.2 For 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:

- D 268 Guide for Sampling and Testing Volatile Solvents and Chemical Intermediates for Use in Paint and Related Coatings and Materials³
- D 1078 Test Method for Distillation Range of Volatile Organic Liquids³
- D 1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)³
- D 1364 Test Method for Water in Volatile Solvents (Karl Fischer Reagent Titration Method)³
- D 1613 Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used In Paint, Varnish, Lacquer, and Related Products³
- D 2192 Test Method for Purity of Aldehydes and Ketones³
- D 4052 Test Method for Density and Relative Density of Liquids by Digital Density Meter⁴
- E 1 Specification for ASTM Thermometers⁵
- E 300 Practice for Sampling Industrial Chemicals⁶

2.2 U.S. Federal Specification:

- PPP-C-2020 Chemicals, Liquid, Dry, and Paste: Packaging of⁷

3. Properties

3.1 Isophorone shall conform to the following requirements:

Apparent specific gravity:	
20/20°C	0.921 to 0.923
25/25°C	0.918 to 0.920
Color, Pt-Co scale, max	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

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 D 1209.

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 E 1.

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

¹ This specification is under the jurisdiction of ASTM Committee D-1 on Paint and Related Coatings and Materials and is the direct responsibility of Subcommittee D 01.35 on Solvents, Plasticizers, and Chemical Intermediates.

Current edition approved March 25, 1988. Published May 1988. Originally published as D 2916 – 70. Last previous edition D 2916 – 84.

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


³ *Annual Book of ASTM Standards*, Vol 06.04.

⁴ *Annual Book of ASTM Standards*, Vol. 05.02.

⁵ *Annual Book of ASTM Standards*, Vol 14.03.

⁶ *Annual Book of ASTM Standards*, Vol 15.05.

⁷ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094.

 **D 2916**

The American Society for Testing and Materials takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, 100 Barr Harbor Drive, West Conshohocken, PA 19428.