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Designation: D 2917 – 91 (Reapproved 1998)



Designation: D 2917 – 02

Standard Specification for Methyl Isoamyl Ketone¹

This standard is issued under the fixed designation D 2917; 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 Department of Defense.

¹ This specification is under the jurisdiction of ASTM Committee D-1 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.

Current edition approved ~~Oct. 15, 1991~~, July 10, 2002. Published ~~December 1991~~, September 2002. Originally published as D 2917 – 70. Last previous edition D 2917 – 91 (19987).

1. Scope*

1.1 This specification covers methyl isoamyl ketone (98 % grade) for use in paint, varnish, lacquer, and related products.

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 For specific hazard information and guidance, see the supplier’s Material Safety Data Sheet.

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 Materials²

D 1078 Test Method for Distillation Range of Volatile Organic Liquids²

D 1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)²

D 1364 Test Method for Water in Volatile Solvents (Karl Fischer Reagent Titration Method)²

D 1476 Test Method for Heptane Miscibility of Lacquer Solvents²

D 1613 Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer and Related Products²

D 3893 Test Method for Purity of Methyl Amyl Ketone and Methyl Isoamyl Ketone by Gas Chromatography²

D 4052 Test Method for Density and Relative Density of Liquids by Digital Density Meter³

E 1 Specification for ASTM Thermometers⁴

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance in Specifications⁵

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 Methyl isoamyl ketone shall conform to the following requirements:

Apparent specific gravity:	
20/20°C	0.812 to 0.815
25/25°C	0.809 to 0.812
Color, Pt-Co scale, max	15
Distillation, °C	
Initial boiling point, min	140
Dry point, max	148

² Annual Book of ASTM Standards, Vol 06.04.

³ Annual Book of ASTM Standards, Vol 05.02.

⁴ Annual Book of ASTM Standards, Vol 14.03.

⁵ Annual Book of ASTM Standards, Vol 15.05, 14.02.

⁶ Available from Standardization Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094.

⁷ Discontinued; see 2001 Annual Book of ASTM Standards, Vol 15.05.

⁸ Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098

Water, wt %, max	0.1
Acidity as acetic acid, wt %, max	0.02
Purity, wt %, min	98

4. Sampling

4.1 The material shall be sampled 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 convenient method that is accurate to the third decimal place, the temperature of both specimen and water being 20 or 25°C. See 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 41C having a range from 98 to 152°C and conforming to the requirements in Specification E 1.

5.1.4 *Water*—Test Method D 1364⁸.

5.1.5 *Acidity*—Test Method D 1613.

5.1.6 *Purity*—Test Method D 3893.

6. Packaging and Package Marking

6.1 Package size shall be agreed upon by 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 ketone; methyl isoamyl ketone; MIAK; solvents

⁸ In some cases Test Method D 1476 may serve as a useful alternative method to determine the presence of water. Because it is a qualitative test, its use would require agreement between buyer and seller.

SUMMARY OF CHANGES

Committee D01.35 has identified the location of selected changes to this standard since the last issue (D 2917 - 91 (1998)) that may impact the use of this standard.

(1) Added Practice E 29 to the Scope section.

(2) Added Practice E 29 to the Referenced Documents section.

(3) Added a footnote to Water, 5.1.4, indicating that Test Method D 1476 may be used as an alternate test method so as both buyer and seller agree.

(4) Added Test Method D 1476 to the Referenced Documents section.

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