



Standard Specification for Methyl Isoamyl Ketone¹

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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 E29.

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.

2. Referenced Documents

2.1 ASTM Standards:²

D268 Guide for Sampling and Testing Volatile Solvents and Chemical Intermediates for Use in Paint and Related Coatings and Material

D1078 Test Method for Distillation Range of Volatile Organic Liquids

D1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)

D1364 Test Method for Water in Volatile Solvents (Karl Fischer Reagent Titration Method)

D1476 Test Method for Heptane Miscibility of Lacquer Solvents

D1613 Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products

D3893 Test Method for Purity of Methyl Amyl Ketone and Methyl Isoamyl Ketone by Gas Chromatography

D4052 Test Method for Density, Relative Density, and API Gravity of Liquids by Digital Density Meter

D5386 Test Method for Color of Liquids Using Tristimulus Colorimetry

E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

E300 Practice for Sampling Industrial Chemicals

2.2 U.S. Federal Specification:

PPP-C-2020 Chemicals, Liquid, Dry, and Paste: Packaging of³

3. Properties

3.1 Methyl isoamyl ketone shall conform to the following requirements:

Apparent specific gravity: 20/20°C	0.812 to 0.815 or 0.809 to 0.812
25/25°C	0.809 to 0.812
Color, Pt-Co scale, max (Note 1)	15
Distillation, °C	
Initial boiling point, min	140
Dry point, max	148
Water, wt %, max	0.1
Acidity as acetic acid, wt %, max	0.02
Purity, wt %, min	98

NOTE 1—Instrumental Pt-Co color determined by Test Method D5386 has been shown to have no statistically significant difference from Pt-Co color determined by Test Method D1209. However, it is not known whether methyl isoamyl ketone was part of the sample set included in the interlaboratory study.

4. Sampling

4.1 The material shall be sampled in accordance with Practice E300.

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

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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.

³ Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098, http://www.dodssp.daps.mil.

the third decimal place, the temperature of both specimen and water being 20°C or 25°C. See Guide **D268** or Test Method **D4052**.

5.1.2 *Color*—Test Method **D1209** (see **Note 1**).

5.1.3 *Distillation Range*—Test Method **D1078**, using a temperature measuring device having a range of 98 to 152°C and a resolution of 0.1°C.

5.1.4 *Water*—Test Method **D1364**.⁴

⁴ In some cases Test Method **D1476** 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.

5.1.5 *Acidity*—Test Method **D1613**.

5.1.6 *Purity*—Test Method **D3893**.

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

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