



Designation: D1718 – 09 (Reapproved 2023)

Standard Specification for Isobutyl Acetate (95 % Grade)¹

This standard is issued under the fixed designation D1718; 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 This specification covers isobutyl acetate (95 % grade).

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 Safety Data Sheet for material listed in this specification.

1.5 *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

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)

D1353 Test Method for Nonvolatile Matter in Volatile Solvents for Use in Paint, Varnish, Lacquer, and Related Products

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

D1476 Test Method for Heptane Miscibility of Lacquer Solvents (Withdrawn 2021)³

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

D3545 Test Method for Alcohol Content and Purity of Acetate Esters 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:*⁴

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

3. Properties

3.1 Isobutyl acetate shall conform to the following requirements:⁵

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

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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 The last approved version of this historical standard is referenced on www.astm.org.

⁴ Available from DLA Document Services, Building 4/D, 700 Robbins Ave., Philadelphia, PA 19111-5094, <http://quicksearch.dla.mil>.

⁵ 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 user and supplier.

Apparent specific gravity: 20/20 °C	0.868 to 0.873 or
25/25 °C	0.864 to 0.869
Color Pt-Co units, max ⁴	10
Distillation, °C at 760 mmHg	
Initial boiling point, min	112.0
Dry point, max	119.0
Nonvolatile matter mg/100 mL, max	5
Water, wt %, max ⁷	0.1
Acidity (free acid as acetic), wt %, max	0.01
Purity, wt %, min	95

⁴ Instrumental Pt-Co color determined by Test Method **D5386** have been shown to have no statistically significant difference from Pt-Co color determined by Test Method **D1209**. However, it is not known whether isobutyl acetate 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 Method

5.1 The properties enumerated in this specification shall be determined in accordance with the following ASTM 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 °C. See Guide **D268** or Test Method **D4052**.

5.1.2 *Color*—Test Method **D1209**.

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

5.1.4 *Nonvolatile Matter*—Test Method **D1353**.

5.1.5 *Water*—Test Method **D1364** and Method **D1476**.

5.1.6 *Acidity*—Test Method **D1613**.

5.1.7 *Purity*—Test Method **D3545**.

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 ester; isobutyl acetate

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