



Designation: D 3131 – 02

Standard Specification for Isopropyl Acetate (99 % Grade)¹

This standard is issued under the fixed designation D 3131; 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 approval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope *

1.1 This specification covers isopropyl acetate (99 % grade).

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

1.3 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.

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 1296 Test Method for Odor of Volatile Solvents and Diluents²
- D 1353 Test Method for Nonvolatile Matter in Volatile Solvents for Use in Paint, Varnish, Lacquer, and Related Products²
- 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 3545 Test Method for Alcohol Content and Purity of Acetate Esters 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 with 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 Isopropyl acetate (99 % grade) shall conform to the following requirements:

Apparent specific gravity:	
20/20°C	0.870 to 0.874
25/25°C	0.865 to 0.869
Color, Pt-Co scale, max	10
Distillation range, 760 mmHg : (see Note 1)	
Initial boiling point, min, °C	85
Dry point, max, °C	90
Nonvolatile matter, mg/100 mL, max	5
Odor (see Note 1)	nonresidual
Water, weight %, max (see Note 2)	0.2
Acidity (free acid as acetic acid), weight %, max	0.01, equivalent to 0.093 mg of KOH per gram of sample
Purity, weight %, min	99.0

NOTE 1—Optional as agreed upon between the buyer and the seller.

NOTE 2—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 user and supplier.

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 D 01.35 on Solvents, Plasticizers, and Chemical Intermediates.

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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 14.02.

⁶ Annual Book of ASTM Standards, Vol 15.05.

⁷ Available from Standardization Documents Order Desk, DODSSP, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098.

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