



## Standard Specification for Isopropyl Acetate (99 % Grade)<sup>1</sup>

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 reappraisal. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reappraisal.

### 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.

### 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 Materials<sup>2</sup>
  - D 1078 Test Method for Distillation Range of Volatile Organic Liquids<sup>2</sup>
  - D 1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)<sup>2</sup>
  - D 1296 Test Method for Odor of Volatile Solvents and Diluents<sup>2</sup>
  - D 1353 Test Method for Nonvolatile Matter in Volatile Solvents for Use in Paint, Varnish, Lacquer, and Related Products<sup>2</sup>
  - D 1364 Test Method for Water in Volatile Solvents (Karl Fischer Reagent Titration Method)<sup>2</sup>
  - D 1476 Test Method for Heptane Miscibility of Lacquer Solvents<sup>2</sup>
  - D 1613 Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products<sup>2</sup>
  - D 3545 Test Method for Alcohol Content and Purity of Acetate Esters by Gas Chromatography<sup>2</sup>
  - D 4052 Test Method for Density and Relative Density of Liquids by Digital Density Meter<sup>3</sup>
  - E 1 Specification for ASTM Thermometers<sup>4</sup>
  - E 300 Practice for Sampling Industrial Chemicals<sup>5</sup>
- 2.2 U.S. Federal Specification:

PPP-C-2020 Chemicals, Liquid, Dry, and Paste: Packaging of<sup>6</sup>

### 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	nonresidual
Water, weight %, max	0.2. This quantitative water limit ensures that 1 volume of the material is miscible without turbidity with 19 volumes of 99 % heptane at 20°C.
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.

### 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 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 40C having a range from 72 to 126°C and conforming to the requirements in Specification E 1.

5.1.4 *Nonvolatile Matter*—Test Method D 1353.

5.1.5 *Odor*—Test Method D 1296.

5.1.6 *Water*—Test Methods D 1364 and D 1476.

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee D-1 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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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 06.04.

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 05.02.

<sup>4</sup> *Annual Book of ASTM Standards*, Vol 14.03.

<sup>5</sup> *Annual Book of ASTM Standards*, Vol 15.05.

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