



## 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 reapproval. A superscript epsilon ( $\epsilon$ ) 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.

### 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.

Current edition approved Nov. 10, 1997. Published August 1998. Originally published in D 3131 – 72. Last previous edition D 3131 – 93.

<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.

5.1.7 *Acidity*—Test Method D 1613.

5.1.8 *Purity*—Test Method D 3545.

6.2 Packaging shall conform to applicable carrier rules and regulations or when specified shall conform to Fed. Spec. PPP-C-2020.

## **6. Packaging and Package Marking**

6.1 Package size shall be agreed upon between the purchaser and the supplier.

## **7. Keywords**

7.1 isopropyl acetate

*The American Society for Testing and Materials takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.*

*This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, 100 Barr Harbor Drive, West Conshohocken, PA 19428.*