



Standard Specification for sec-Butyl Alcohol^{1,2}

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1. Scope *

1.1 This specification covers *sec*-butyl alcohol for use in paint, varnish, lacquer, and related products.

1.2 For hazard information and guidance, see the supplier's Material Safety Data Sheet.

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 Materials³

D 1078 Test Method for Distillation Range of Volatile Organic Liquids³

D 1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)³

D 1353 Test Method for Nonvolatile Matter in Volatile Solvents for Use in Paint, Varnish, Lacquer, and Related Products³

D 1364 Test Method for Water in Volatile Solvents (Karl Fischer Reagent Titration Method)³

D 1613 Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products³

D 4052 Test Method for Density and Relative Density of Liquids by Digital Density Meter⁴

E 1 Specification for ASTM Thermometers⁵

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 *sec*-Butyl alcohol shall conform to the following requirements:

Apparent specific gravity:	
20/20°C	0.807 to 0.809
25/25°C	0.804 to 0.806
Color, Pt-Co scale, max	10
Distillation range, 760 mmHg, °C as:	
Initial boiling point, min	98.0
Dry point, max	101.0
Nonvolatile matter, max, mg/100 mL	5
Water, max, weight %	0.5
Acidity, as acetic acid, max, weight %	0.002 ⁴

⁴ Equivalent to 0.019 mg of KOH per gram of sample.

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 methods:

5.1.1 *Apparent Specific Gravity*—Determine the apparent specific gravity at 20 or 25°C by a convenient method that is accurate to the third decimal place. See 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 *Water*—Test Methods D 1364 .

5.1.6 *Acidity*—Test Method D 1613.

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 methyl ethyl carbinol; *sec*-butyl alcohol; 2-hydroxybutane

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

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² This compound is also known under the names 2-butanol and secondary butanol.

³ *Annual Book of ASTM Standards*, Vol 06.04.

⁴ *Annual Book of ASTM Standards*, Vol 05.02.

⁵ *Annual Book of ASTM Standards*, Vol 14.03.

⁶ *Annual Book of ASTM Standards*, Vol 15.05.

⁷ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

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

SUMMARY OF CHANGES

Committee D-1 has identified the location of selected changes to this standard since the last date of issue that may impact the use of this standard.

- (1) Added hazard caveat.
- (2) Deleted Test Method D 1476.

- (3) Added Summary of Changes section.

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