



Standard Specification for Amyl Alcohol (Synthetic)^{1, 2}

This standard is issued under the fixed designation D 319; 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 synthetic amyl alcohol.

1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

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.

1.4 For hazard information and guidance, see the supplier’s Material Safety Data Sheet.

2. Referenced Documents

2.1 *ASTM Standards*:³

D 268 Guide for Sampling and Testing Volatile Solvents and Chemical Intermediates for Use in Paint and Related Coatings and Materials

D 891 Test Methods for Specific Gravity, Apparent, of Liquid Industrial Chemicals

D 1078 Test Method for Distillation Range of Volatile Organic Liquids

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

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

D 1476 Test Method for Heptane Miscibility of Lacquer Solvents

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

D 4052 Test Method for Density and Relative Density of

Liquids by Digital Density Meter

E 1 Specification for ASTM Thermometers

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

E 300 Practice for Sampling Industrial Chemicals

2.2 *U.S. Federal Specification*:

PPP-C-2020 Chemicals, Liquid, Dry, and Paste: Packaging of⁴

3. Properties

3.1 Amyl alcohol (synthetic) shall conform to the following requirements:

Apparent specific gravity 20/20°C	0.812–0.820
or 25/25°C	0.809–0.817
Color, Pt-Co scale, max	15
Distillation range, 760 mmHg, °C as:	
Initial boiling point, min	127.5
Dry point, max	139.0
Water, max, weight %	0.3 ^A
Acidity, as acetic acid, max, weight %	0.01 ^B

^A This quantitative water limit ensures that the material is miscible without turbidity with 19 volumes of 99 % heptane at 20°C.

^B Equivalent to 0.093 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 Methods D 891 or 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 41C having a range from 98 to 152°C and conforming to the requirements in Specification E 1.

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

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 Amyl alcohol is also known as pentanol. This material is a mixture of the isomers of amyl alcohol.

³ 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.

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



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

5.1.5 *Acidity*—Test Method **D 1613**.

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 amyl alcohol; pentanols

SUMMARY OF CHANGES

Subcommittee D01.35 has identified the location of selected changes to this standard since the last issue (D 319 – 95 (1999)) that may impact the use of this standard.

(1) Permitted apparent specific gravity to be run at either 20/20°C or 25/25°C.

(2) Added Practice **E 29** to the Scope and Referenced Documents sections.

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