

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

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1. Scope

1.1 This specification covers synthetic amyl alcohol.

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 891 Test Methods for Specific Gravity, Apparent, of Liquid Industrial Chemicals⁴

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

D 1476 Test Method for Heptane Miscibility of Lacquer Solvents³

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 Meter⁵

E 1 Specification for ASTM Thermometers⁶

E 300 Practice for Sampling Industrial Chemicals⁴

2.2 *U.S. Federal Specification*:

PPP-C-2020 Chemicals, Liquid, Dry, and Paste: Packaging of⁷

3. Properties

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

Apparent specific gravity	
20/20°C	0.812–0.820
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 Methods 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.

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

5.1.5 *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 amyl alcohol; pentanols

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² Amyl alcohol is also known as pentanol. This material is a mixture of the isomers of amyl alcohol.

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

⁴ *Annual Book of ASTM Standards*, Vol 15.05.

⁵ *Annual Book of ASTM Standards*, Vol 05.02.

⁶ *Annual Book of ASTM Standards*, Vol 14.03.

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

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