



Standard Specification for Hexyl Acetate¹

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1. Scope

1.1 This specification covers hexyl acetate, which is used as an active tail high boiling solvent in lacquers, automotive coatings, maintenance paints, and other related coatings.

1.2 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

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 E29.

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

2. Referenced Documents

2.1 ASTM Standards:²

D268 Guide for Sampling and Testing Volatile Solvents and Chemical Intermediates for Use in Paint and Related Coatings and Material

D1078 Test Method for Distillation Range of Volatile Organic Liquids

D1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)

D1364 Test Method for Water in Volatile Solvents (Karl Fischer Reagent Titration Method)

D1476 Test Method for Heptane Miscibility of Lacquer Solvents

D1613 Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products

D1617 Test Method for Ester Value of Solvents and Thinners

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 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.

D4052 Test Method for Density, Relative Density, and API Gravity of Liquids by Digital Density Meter

D5386 Test Method for Color of Liquids Using Tristimulus Colorimetry

E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

E300 Practice for Sampling Industrial Chemicals

2.2 U.S. Federal Specification:

PPP-C-2020 Chemicals, Liquid, Dry, and Paste: Packaging of³

3. Properties

3.1 Hexyl acetate shall conform to the following requirements:⁴

Acidity (free acid as acetic acid) weight %, max	0.02
Apparent specific gravity 20/20°C	0.872 to 0.876 or 0.868 to 0.872
25/25°C	0.868 to 0.872
Color, Pt-Co units, max (Note 1)	15
Distillation range, °C	
Initial boiling point, min	162
95 % point, max	176
Electrical Resistivity Ransburg megohms, min	20
Ester value, weight, % min	99.0
Water content, weight %, max ⁴	0.05

NOTE 1— Instrumental Pt-Co color determined by Test Method D5386 has been shown to have no statistically significant difference from Pt-Co color determined by Test Method D1209. However, it is not known whether hexyl acetate was part of the sample set included in the interlaboratory study.

4. Sampling

4.1 The material shall be sampled in accordance with Practice E300.

5. Test Methods

5.1 The properties enumerated in this specification shall be determined in accordance with the following ASTM methods:

5.1.1 Acidity—Test Method D1613.

³ Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098, http://www.dodssp.daps.mil.

⁴ This quantitative water limit ensures that the material is miscible without turbidity with 19 volumes of heptane at 20°C.

5.1.2 *Apparent Specific Gravity*—Determine the apparent specific gravity by any convenient method that is accurate to the third decimal place, the termination of both the specimen and water being 20°C. See Guide **D268** or Test Method **D4052**.

5.1.3 *Color*—Method **D1209**.

5.1.4 *Distillation Range*—Test Method **D1078** using a temperature measuring device having a range of 148 to 202°C and a resolution of 0.1°C.

5.1.5 *Electrical Resistivity*—An ASTM Test Method utilizing a Ransburg Electrical Resistivity meter is under development.

5.1.6 *Ester Value*—Test Method **D1617**. Use specimen size, reaction conditions, and ester factor as specified for methyl amyl acetate.

5.1.7 *Water Content*—Test Methods **D1364** and **D1476**.

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 Federal Spec. PPP-C-2020.

7. Keywords

7.1 ester; hexyl acetate; solvent

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