



Designation: **D 5137 – 9501**

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

2. Referenced Documents

2.1 *ASTM Standards:*

¹ These specifications are under the jurisdiction of ASTM Committee ~~D-T~~ 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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*A Summary of Changes section appears at the end of this standard.

D 268 Guide for Sampling and Testing Volatile Solvents and Chemical Intermediates for Use in Paint and Related Coatings and Materials²

D 1078 Test Method for Distillation Range of Volatile Organic Liquids²

D 12096 Test Method for ~~Odor~~ Color of Volatile Solvents and Diluents Clear Liquids (Platinum-Cobalt Scale)²

D 1364 Test Method for Water in Volatile Solvents (Fischer Reagent Titration Method)²

D 1476 Test Method for Heptane Miscibility of Lacquer Solvents²

D 1613 Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products²

D 1617 Test Method for Ester Value of Solvents and Thinners²

D 4052 Test Method for Density and Relative Density of Liquids by Digital Density Meter³

E 1 Specification for ASTM Thermometers⁴

E 300 Practice for Sampling Industrial Chemicals⁵

2.2 *U.S. Federal Specification:*

PPP-C-2020 Chemicals, Liquid, Dry, and Paste: Packaging of⁶

3. Properties

3.1 Hexyl acetate shall conform to the following requirements:⁷

Acidity (free acid as acetic acid) weight %, max	0.02
Apparent specific gravity	
20/20°C	0.872 to 0.876
25/25°C	0.868 to 0.872
Color, Pt-Co units, max	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 ⁷	0.05

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 *Acidity*—Test Method D 1613.

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 D 268 or Test Method D 4052.

5.1.3 *Color*—Method D 1209.

5.1.4 *Distillation Range*—Test Method D 1078 using an ASTM Solvents Distillation Thermometer 103C having a range from 148 to 202°C and conforming to the requirements in Specification E 1.

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 D 1617. Use specimen size, reaction conditions, and ester factor as specified for methyl amyl acetate.

5.1.7 *Water Content*—Test Methods D 1364 and D 1476.

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

² *Annual Book of ASTM Standards*, Vol 06.04.

³ *Annual Book of ASTM Standards*, Vol 05.02.

⁴ *Annual Book of ASTM Standards*, Vol 14.03.

⁵ Discontinued 2001; see *2000 Annual Book of ASTM Standards*, Vol 15.05.

⁶ Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094.

⁷ This quantitative water limit ensures that the material is miscible without turbidity with 19 volumes of heptane at 20°C.

SUMMARY OF CHANGES

Committee D01 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) Reference to Test Method D 1296 was removed from the Referenced Document section because odor is not a test in this specification.

(2) Reference to Test Method D 1209 was added to the Referenced Document section because color is a test in this specification.

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