



Designation: D5137 – 07 (Reapproved 2021)

Standard Specification for Hexyl Acetate¹

This standard is issued under the fixed designation D5137; 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 reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

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.

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

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Sampling and Testing Volatile Solvents and Chemical Intermediates for Use in Paint and Related Coatings and Material \(Withdrawn 2021\)](#)³

[D1078 Test Method for Distillation Range of Volatile Organic Liquids](#)

[D1209 Test Method for Color of Clear Liquids \(Platinum-Cobalt Scale\)](#)

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.

Current edition approved July 1, 2021. Published August 2021. Originally approved in 1990. Last previous edition approved in 2013 as D5137 – 07 (2013). DOI: 10.1520/D5137-07R21.

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.

³ The last approved version of this historical standard is referenced on www.astm.org.

[D1364 Test Method for Water in Volatile Solvents \(Karl Fischer Reagent Titration Method\) \(Withdrawn 2021\)](#)³

[D1476 Test Method for Heptane Miscibility of Lacquer Solvents \(Withdrawn 2021\)](#)³

[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 \(Withdrawn 2021\)](#)³

[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 of](#)⁴

3. Properties

3.1 Hexyl acetate shall conform to the following requirements:⁵

| | |
|--|--|
| 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 ⁵ | 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 Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098, <http://www.dodssp.daps.mil>.

⁵ This quantitative water limit ensures that the material is miscible without turbidity with 19 volumes of heptane at 20 °C.

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**.

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*—Test Method **D1209**.

5.1.4 *Distillation Range*—Test Method **D1078** using a temperature measuring device having a range of 148 °C 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

ASTM International takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, at the address shown below.

This standard is copyrighted by ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States. Individual reprints (single or multiple copies) of this standard may be obtained by contacting ASTM at the above address or at 610-832-9585 (phone), 610-832-9555 (fax), or service@astm.org (e-mail); or through the ASTM website (www.astm.org). Permission rights to photocopy the standard may also be secured from the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, Tel: (978) 646-2600; http://www.copyright.com/

[ASTM D5137-07\(2021\)](https://standards.iteh.ai/catalog/standards/sist/28543d2f-48d6-4339-9c5a-56d114f138a1/astm-d5137-072021)

<https://standards.iteh.ai/catalog/standards/sist/28543d2f-48d6-4339-9c5a-56d114f138a1/astm-d5137-072021>