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Standard Specification for Vinyl Acetate¹

This standard is issued under the fixed designation D2190; 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 vinyl acetate.

1.2 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.

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

1.4 For specific hazard information and guidance, see the supplier’s Material Safety Data Sheet for materials listed in this specification.

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Sampling and Testing Volatile Solvents and Chemical Intermediates for Use in Paint and Related Coatings and Material (Withdrawn 2021)³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

D1364 Test Method for Water in Volatile Solvents (Karl

Fischer Reagent Titration Method) (Withdrawn 2021)³

D2086 Test Method for Acidity in Vinyl Acetate and Acetaldehyde (Withdrawn 2021)³

D2191 Test Method for Acetaldehyde Content of Vinyl Acetate (Withdrawn 2021)³

D2193 Test Method for Hydroquinone in Vinyl Acetate (Withdrawn 2021)³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 Standard:*

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

3. Sampling

3.1 Sample the material in accordance with Practice E300.

4. Properties

4.1 The vinyl acetate shall conform to the following requirements:

Distillation range, °C	71.8 to 73.0
Apparent specific gravity, 20/20 °C	0.9335 to 0.9345
Color (HQ grade only), Pt-Co scale, max (Note 1)	5
Water content, weight %, max	0.05
Acetaldehyde content, weight %, max	0.02
Acidity, as acetic acid, weight %, max	0.005
Inhibitor content (HQ)	A

^A As agreed upon between the purchaser and the manufacturer.

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 vinyl acetate was part of the sample set included in the interlaboratory study.

5. Test Methods

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

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

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.

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

5.1.1 *Apparent Specific Gravity*—Determine the apparent specific gravity by any convenient method that is accurate to the fourth decimal place, the temperature of both specimen and water being 20 °C. (See Guide [D268](#) or Test Method [D4052](#).)

5.1.2 *Color*—Test Method [D1209](#) (see [Note 1](#)).

5.1.3 *Distillation Range*—Test Method [D1078](#), using a temperature measuring device having a range of 48 °C to 102 °C, and a resolution of 0.1 °C.

5.1.4 *Water*—Test Method [D1364](#).

5.1.5 *Acetaldehyde*—Test Method [D2191](#).

5.1.6 *Acidity*—Test Method [D2086](#).

5.1.7 *Inhibitor Content*—Test Method [D2193](#).

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 vinyl acetate

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