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Standard Specification for Acetaldehyde¹

This standard is issued under the fixed designation D 4710; 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 This specification is under the jurisdiction of ASTM Committee D-1 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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1. Scope*

1.1 This specification covers acetaldehyde (99 % grade).

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 E 29.

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

2. Referenced Documents

2.1 ASTM Standards:

D 1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)²

D 1353 Test Method for Nonvolatile Matter in Volatile Solvents for Use in Paint, Varnish, Lacquer, and Related Products²

D 2086 Test Method for Acidity in Vinyl Acetate and Acetaldehyde²

D 2192 Test Method for Purity of Aldehydes and Ketones²

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications³

E 300 Practice for Sampling Industrial Chemicals⁴

2.2 U.S. Federal Specification:

PPP-C-2020 Chemicals, Liquid, Dry, and Paste: Packaging of⁵

3. Properties

3.1 Acetaldehyde shall conform to the following requirements:

Purity, wt %, min, as acetaldehyde	99
Color, Pt-Co units, max	15
Acidity, wt %, max, (free acid as acetic acid)	0.05
Nonvolatile matter, wt %, max	0.5

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 test methods:

5.1.1 *Purity*—Test Method D 2192.

5.1.2 *Color*—Test Method D 1209.

5.1.3 *Acidity*—Test Method D 2086.

5.1.4 *Nonvolatile Matter*—Determine the nonvolatile matter or residue after evaporation in accordance with Test Method D 1353 except use an oven temperature of 60 ±5°F.

² Annual Book of ASTM Standards, Vol 06.04.

³ Annual Book of ASTM Standards, Vol 15.05, 14.02.

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

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

⁵ Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098.

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 acetaldehyde; acidity; aldehyde

SUMMARY OF CHANGES

Committee D01.35 has identified the location of selected changes to this standard since the last issue (D 4710 - 93 (1999)) that may impact the use of this standard.

(1) Added reference to Practice E 29 in Scope section.

(2) Added Practice E 29 to list of Referenced Documents.

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