Standard Specification for
Acetaldehyde[1]

1. Scope*

1.1 This specification covers acetaldehyde (99 % grade).

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 for materials listed in this specification.

2. Referenced Documents

2.1 *ASTM Standards:*[2]
D1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)
D1353 Test Method for Nonvolatile Matter in Volatile Solvents for Use in Paint, Varnish, Lacquer, and Related Products
D2086 Test Method for Acidity in Vinyl Acetate and Acetaldehyde
D2192 Test Method for Purity of Aldehydes and Ketones
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 [3]

3. Properties

3.1 Acetaldehyde shall conform to the following requirements:

Purity, wt %, min, as acetaldehyde	99
Color, Pt-Co units, max (Note 1)	15
Acidity, wt %, max, (free acid as acetic acid)	0.05
Nonvolatile matter, wt %, max	0.5

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 acetaldehyde 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 test methods:

5.1.1 *Purity*—Test Method D2192.

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

5.1.3 *Acidity*—Test Method D2086.

5.1.4 *Nonvolatile Matter*—Determine the nonvolatile matter or residue after evaporation in accordance with Test Method D1353 except use an oven temperature of 60 ± 5°F.

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.

*A Summary of Changes section appears at the end of this standard