Designation: D 329 – 07

Standard Specification for Acetone[1, 2]

This standard is issued under the fixed designation D 329; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope*

1.1 This specification covers acetone (99.5 % 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 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.* Specific hazard statements are given in 1.5 and 4.1.

1.5 This specification specifies the use of a U.S. Occupational Safety and Health Administration (OSHA)-designated hazardous chemical, acetone. For hazard information and guidance see the supplier's Material Safety Data Sheet.

2. Referenced Documents

2.1 *ASTM Standards:* [3]

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

D 1078 Test Method for Distillation Range of Volatile Organic Liquids

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

D 1296 Test Method for Odor of Volatile Solvents and Diluents

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

D 1363 Test Method for Permanganate Time of Acetone and Methanol

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

D 1476 Test Method for Heptane Miscibility of Lacquer Solvents

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

D 1614 Test Method for Alkalinity in Acetone

D 1722 Test Method for Water Miscibility of Water-Soluble Solvents

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

D 5386 Test Method for Color of Liquids Using Tristimulus Colorimetry

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

E 300 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 Acetone (99.5 % grade) shall conform to the following requirements:

Acidity (free acid as acetic) wt %, max	0.002 (equivalent to 0.019 mg of KOH/g of sample)
Aldehydes	passes test
Alkalinity (as ammonia) wt %, max	0.001
Apparent specific gravity:	
20/20°C	0.7910 to 0.7930 or
25/25°C	0.7865 to 0.7885
Assay wt %, min	99.5
Color Pt-Co, max (Note 1)	5
Distillation range 760 mmHg (Note 3)	shall distill entirely within a 1.0°C range which shall include 56.1°C

[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] The compound is also known under the names dimethyl ketone and 2-propanone.

[3] 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.

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

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