



Designation: D1078 – 11 (Reapproved 2019)



Designation: 195/98

Standard Test Method for Distillation Range of Volatile Organic Liquids¹

This standard is issued under the fixed designation D1078; 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 U.S. Department of Defense.

1. Scope

1.1 This test method covers the determination of the distillation range of liquids boiling between 30 and 350 °C, that are chemically stable during the distillation process, by manual or automatic distillation procedures.

1.2 This test method is applicable to organic liquids such as hydrocarbons, oxygenated compounds, chemical intermediates, and blends thereof.

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 purposes of determining conformance of an observed or a calculated value using this test method to relevant specifications, test result(s) 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.

1.5 For hazard information and guidance, see the supplier’s Material Safety Data Sheet.

1.6 **Warning**—Mercury has been designated by EPA and many state agencies as a hazardous material that can cause central nervous system, kidney, and liver damage. Mercury, or its vapor, may be hazardous to health and corrosive to materials. Caution should be taken when handling mercury and mercury-containing products. See the applicable product Material Safety Data Sheet (MSDS) for details and EPA’s website (<http://www.epa.gov/mercury/faq.htm>) for additional information. Users should be aware that selling mercury or mercury-containing products, or both, in your state may be prohibited by state law.

1.7 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use. Specific hazard statements are given in Section 7.

1.8 *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

D86 Test Method for Distillation of Petroleum Products and Liquid Fuels at Atmospheric Pressure
E1 Specification for ASTM Liquid-in-Glass Thermometers
E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications
E133 Specification for Distillation Equipment
E299 Test Method for Trace Amounts of Peroxides In Organic Solvents

2.2 ASTM Adjuncts:

Determination of Precision and Bias for Use in Test Methods for Petroleum Products and Lubricants³

3. Terminology

3.1 Definitions:

3.1.1 *decomposition point, n*—the thermometer reading that coincides with the first indications of thermal decomposition of the liquid in the flask.

3.1.2 *dry point, n*—the temperature indicated at the instant the last drop of liquid evaporates from the lowest point in the distillation flask, disregarding any liquid on the side of the flask.

¹ This test method 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 April 1, 2019. Published April 2019. Originally approved in 1949. Last previous edition approved in 2011 as D1078 – 11. DOI: 10.1520/D1078-11R19.

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 Available from ASTM International Headquarters. Order Adjunct No. ADJD6300.