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.

Designation: D7094 – 17

Standard Test Method for Flash Point by Modified Continuously Closed Cup (MCCCFP) Tester[1]

This standard is issued under the fixed designation D7094; 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 test method covers the determination of the flash point of fuels, lube oils, solvents, and other liquids by a continuously closed cup tester utilizing a specimen size of 2 mL, cup size of 7 mL, with a heating rate of 2.5 °C per minute.

1.1.1 Apparatus requiring a specimen size of 1 mL, cup size of 4 mL, and a heating rate of 5.5 °C per minute must be run according to Test Method D6450.

1.2 This flash point test method is a dynamic method and depends on definite rates of temperature increase. It is one of the many flash point test methods available and every flash point test method, including this one, is an empirical method.

NOTE 1—Flash point values are not a constant physical chemical property of materials tested. They are a function of the apparatus design, the condition of the apparatus used, and the operational procedure carried out. Flash point can, therefore, only be defined in terms of a standard test method and no general valid correlation can be guaranteed between results obtained by different test methods or where different test apparatus is specified.

1.3 This test method utilizes a closed but unsealed cup with air injected into the test chamber.

1.4 This test method is suitable for testing samples with a flash point from 35 °C to 225 °C.

NOTE 2—Flash point determinations below 35 °C and above 225 °C may be performed; however, the precision has not been determined below and above these temperatures.

1.5 If the user's specification requires a defined flash point method other than this method, neither this method nor any other test method should be substituted for the prescribed test method without obtaining comparative data and an agreement from the specifier.

1.6 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard. Temperatures are in degrees Celsius, pressure in kilo-Pascals.

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 and health practices and determine the applicability of regulatory limitations prior to use.* For specific warning statements, see 7.2, 8.5, and 10.1.2.

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]

D93 Test Methods for Flash Point by Pensky-Martens Closed Cup Tester

D4057 Practice for Manual Sampling of Petroleum and Petroleum Products

D4177 Practice for Automatic Sampling of Petroleum and Petroleum Products

D6450 Test Method for Flash Point by Continuously Closed Cup (CCCFP) Tester

D6708 Practice for Statistical Assessment and Improvement of Expected Agreement Between Two Test Methods that Purport to Measure the Same Property of a Material

E300 Practice for Sampling Industrial Chemicals

2.2 *ISO Standards:*[3]

ISO Guide 34 Quality Systems Guidelines for the Production of Reference Materials

ISO Guide 35 Certification of Reference Materials—General and Statistical Principles

3. Terminology

3.1 *Definitions:*

[1] This test method is under the jurisdiction of ASTM Committee D02 on Petroleum Products, Liquid Fuels, and Lubricants and is the direct responsibility of Subcommittee D02.08 on Volatility.

Current edition approved May 1, 2017. Published June 2017. Originally approved in 2004. Last previous edition approved in 2016 as D7094 – 16. DOI: 10.1520/D7094-17.

[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 American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, http://www.ansi.org.

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

Copyright © ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959. United States