



Designation: D 56 – 02a

An American National Standard

Standard Test Method for Flash Point by Tag Closed Cup Tester¹

This standard is issued under the fixed designation D 56; 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.

INTRODUCTION

To ensure an acceptable precision, this dynamic flash point test method employs a prescribed rate of temperature rise for the material under test. The rate of heating may not in all cases give the precision quoted in the test method because of the low thermal conductivity of certain materials. To improve the prediction of flammability, Test Method D 3941, which utilizes a slower heating rate, was developed. Test Method D 3941 provides conditions closer to equilibrium where the vapor above the liquid and the liquid are at about the same temperature. If a specification requires Test Method D 56, do not change to D 3941 or other test method without permission from the specifier.

Flash point values 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 with test apparatus different from that specified.

1. Scope*

1.1 This test method covers the determination of the flash point, by tag manual and automated closed testers, of liquids with a viscosity below 5.5 mm²/s (cSt) at 40°C (104°F), or below 9.5 mm²/s (cSt) at 25°C (77°F), and a flash point below 93°C (200°F).

1.1.1 For the closed-cup flash point of liquids with the following properties: a viscosity of 5.5 mm²/s (cSt) or more at 40°C (104°F); a viscosity of 9.5 mm²/s (cSt) or more at 25°C (77°F); a flash point of 93°C (200°F) or higher; a tendency to form a surface film under test conditions; or containing suspended solids, Test Method D 93 can be used.

1.1.2 For cut-back asphalts refer to Test Methods D 1310 and D 3143.

¹ This test method is under the joint jurisdiction of ASTM Committee D02 on Petroleum Products and Lubricants and is the direct responsibility of Subcommittee D02.08 on Volatility.

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