Designation: D156 – 15

Standard Test Method for Saybolt Color of Petroleum Products (Saybolt Chromometer Method)[1]

This standard is issued under the fixed designation D156; 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 color of refined oils such as undyed motor and aviation gasoline, jet propulsion fuels, naphthas and kerosine, and, in addition, petroleum waxes and pharmaceutical white oils.

NOTE 1—For determining the color of petroleum products darker than Saybolt Color – 16, see Test Method D1500.

1.2 This test method reports results specific to this test method and recorded as, "Saybolt Color units."

1.3 The values stated in inch-pound units or in SI units and which are not in parentheses are to be regarded as the standard. The values given in parentheses are for information only.

NOTE 2—Oil tubes and apparatus used in this test method have traditionally been marked in inches, (the tube is required to be etched with ⅛ in. divisions.) The Saybolt Color Numbers are aligned with inch, ½ in., ¼ in., and ⅛ in. changes in the depth of oil. These fractional inch changes do not readily correspond to SI equivalents and in view of the preponderance of apparatus already in use and marked in inches, the inch/pound unit is regarded as the standard. However the test method does use SI units of length when the length is not directly related to divisions on the oil tube and Saybolt Color Numbers. The test method uses SI units for temperature.

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.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

D938 Test Method for Congealing Point of Petroleum Waxes, Including Petrolatum

D1500 Test Method for ASTM Color of Petroleum Products (ASTM Color Scale)

D4057 Practice for Manual Sampling of Petroleum and Petroleum Products

E308 Practice for Computing the Colors of Objects by Using the CIE System

3. Terminology

3.1 *Definitions:*

3.1.1 *clear-and-bright, n*—condition in which the sample is free of haze or cloudiness. (Also termed *clean-and-bright* .)

3.1.2 *free water, n*—water in excess of that soluble in the sample and appearing in the sample as a haze or cloudiness, as droplets, or as a separated phase or layer.

3.1.3 *particulates, n*—small solid or semisolid particles, sometimes referred to as silt or sediment, that can be suspended in the sample or can settle to the bottom.

3.1.4 *turbidity, n*—reduction of transparency of a sample due to the presence of particulate matter or water haze, or both.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *Saybolt color, n*—an empirical definition of the color of a clear petroleum liquid based on a scale of −16 (darkest) to +30 (lightest).

3.2.1.1 *Discussion*—The number is derived by finding the height of a column of the sample that, when viewed through the length of the column, visually matches the appropriate one of three glass standards and referring to Table 1 of Test Method D156.

4. Summary of Test Method

4.1 The height of a column of sample is decreased by levels corresponding to color numbers until the color of the sample is unmistakably lighter than that of the standard. The color number above this level is reported, regardless of whether the sample was darker, questionable, or a match at the higher level.

5. Significance and Use

5.1 Determination of the color of petroleum products is used mainly for manufacturing control purposes and is an important

[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 D02.05 on Properties of Fuels, Petroleum Coke and Carbon Material.

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[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.

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

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