



Designation: D1500 – 24



Designation: 196/97 (2014)

Standard Test Method for ASTM Color of Petroleum Products (ASTM Color Scale)^{1,2}

This standard is issued under the fixed designation D1500; 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 visual determination of the color of a wide variety of petroleum products, such as lubricating oils, heating oils, diesel fuel oils, and petroleum waxes.

NOTE 1—Test Method **D156** is applicable to refined products that have an ASTM color lighter than 0.5.

NOTE 2—The color of some dyed products may extend outside color range defined by the glass reference standards employed in the testing procedure. Furthermore, samples used to determine the precision and bias did not include dyed products.

NOTE 3—It is up to the user to determine the suitability of this test method for their dyed products.

1.2 This test method reports results specific to the test method and recorded as “ASTM Color.”

1.3 *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.*

1.4 *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.*

¹ This test method is under the jurisdiction of ASTM International Committee D02 on Petroleum Products, Liquid Fuels, and Lubricants and is the direct responsibility of ASTM Subcommittee D02.05 on Properties of Fuels, Petroleum Coke and Carbon Material. The technically equivalent standard as referenced is under the jurisdiction of the Energy Institute Subcommittee SC-B-10.

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² This test method has been developed through the cooperative effort between ASTM and the Energy Institute, London. ASTM and IP standards were approved by ASTM and EI technical committees as being technically equivalent but that does not imply both standards are identical. This test method was adopted as a joint ASTM-IP standard in 1966.

2. Referenced Documents

2.1 ASTM Standards:³

D156 Test Method for Saybolt Color of Petroleum Products (Saybolt Chromometer Method)

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

D2500 Test Method for Cloud Point of Petroleum Products and Liquid Fuels

D4057 Practice for Manual Sampling of Petroleum and Petroleum Products

3. Summary of Test Method

3.1 Using a standard light source, a liquid sample is placed in the test container and compared with colored glass disks ranging in value from 0.5 to 8.0. When an exact match is not found and the sample color falls between two standard colors, the higher of the two colors is reported.

4. Significance and Use

4.1 Determination of the color of petroleum products is used mainly for manufacturing control purposes and is an important quality characteristic, since color is readily observed by the user of the product. In some cases, the color may serve as an indication of the degree of refinement of the material. When the color range of a particular product is known, a variation outside the established range may indicate possible contamination with another product. However, color is not always a reliable guide to product quality and should not be used indiscriminately in product specifications.

5. Apparatus

5.1 *Colorimeter*, consisting of light source, glass color standards, sample container housing with cover, and viewing piece as listed in **Annex A1**.

5.2 *Sample Container*—For referee work, use the glass sample jar as shown in **Fig. 1**. For routine tests, it is permissible

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.

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