



# Standard Test Method for Color of Dyed Aviation Gasolines<sup>1</sup>

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*This standard has been approved for use by agencies of the Department of Defense.*

## 1. Scope

1.1 This test method covers the determination of the acceptability of color of dyed aviation gasolines.

1.2 *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 [Annex A1](#).

## 2. Summary of Test Method

2.1 The hue and color intensity of a sample of the gasoline to be tested are compared with those of glass permanent-color standards.

## 3. Significance and Use

3.1 Aviation gasolines are dyed different colors for easy identification of grade, thus minimizing possibilities for fueling aircraft with fuel of the wrong grade.

## 4. Apparatus

4.1 *Color Comparator*, split-field, for viewing simultaneously (by transmitted light) the sample to be tested and the combination of the reference liquid and the glass permanent-color standard.

4.2 *Fluid Tubes*, of glass, 200-mm viewing depth, with a fused-on plane bottom plate.

4.3 *Plungers, Fluid Type*, of polished optical glass.

4.4 *Aviation Gasoline Color Standards*, permanent-color glass disks.

## 5. Material

5.1 The reference liquid can be either distilled water or a sample of the gasoline to be tested before the addition of dye or lead alkyl fluid. (**Warning**—Gasoline is extremely flammable. See [A1.1](#) and [A1.2](#).)

<sup>1</sup> This test method is under the jurisdiction of ASTM Committee D02 on Petroleum Products and Lubricants and is the direct responsibility of Subcommittee D02.05 on Properties of Fuels, Petroleum Coke and Carbon Material.

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## 6. Procedure

6.1 Clean the optical surfaces of the color comparator. Insert the empty fluid tubes in the comparator and adjust the position of the light source until the intensities of the light from both halves of the comparator split-field are equal.

6.2 Rinse and fill one of the tubes with the reference liquid to be used and insert the plunger. Wipe all excess reference liquid from the outside of the tube and from the top of the plunger, and insert the tube on the left side of the comparator.

6.3 Rinse and fill the other tube with the sample to be tested, and insert the plunger. Wipe all excess sample from the outside of the tube and from the top of the plunger, and insert the tube in the right side of the comparator, so that it is directly below the larger of the two openings when the access door is closed.

6.4 Insert the glass permanent-color standards into the comparator and rotate the standards until the color section can be viewed by transmitted light. Turn on the light source and compare the two fields for hue and intensity with the minimum and maximum color sections of the glass permanent-color standards.

6.5 Determine if the hue is approximately the same as the standard and if the intensity of the color is between, or equivalent to, the minimum and maximum, in which case the color of the sample is acceptable. If the hue is different from the standard or if the intensity lies outside the minimum and maximum color sections, report the test as a fail.

## 7. Report

7.1 Report the color as Acceptable or Fail.

## 8. Precision and Bias

8.1 *Precision*—In the case of pass-fail data no generally accepted method for determining precision is currently available.

8.2 *Bias*—No justifiable statement can be made on the bias in this test method for determining the acceptability of the color of dyed aviation gasoline because it is a pass-fail test.

## 9. Keywords

9.1 aviation gasoline; color; dyed aviation gasoline; gasoline

ANNEX

(Mandatory Information)

A1. WARNING STATEMENTS

**A1.1 Gasoline (Containing Lead)**

- Keep away from heat, sparks, and open flame.
- Keep container closed.
- Use with adequate ventilation.
- Avoid buildup of vapors and eliminate all sources of ignition, especially nonexplosion-proof electrical apparatus and heaters.
- Avoid prolonged breathing of vapor or spray mist.
- Avoid prolonged or repeated skin contact.

**A1.2 Gasoline (White or Unleaded)**

- Keep away from heat, sparks, and open flame.
- Keep container closed.
- Use with adequate ventilation.
- Avoid buildup of vapors and eliminate all sources of ignition, especially nonexplosion-proof electrical apparatus and heaters.
- Avoid prolonged breathing of vapor or spray mist.
- Avoid prolonged or repeated skin contact.

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