

Tentative Specifications for HEAVY PETROLEUM SPIRITS (HEAVY MINERAL SPIRITS)¹



ASTM Designation: D 965 - 48 T

ISSUED, 1948.²

These Tentative Specifications have been approved by the sponsoring committee and accepted by the Society in accordance with established procedures, for use pending adoption as standard. Suggestions for revisions should be addressed to the Society at 1916 Race St., Philadelphia 3, Pa.

NOTE.—Footnote 4 was added editorially in November, 1958.

Scope

1. These specifications apply only to petroleum distillates used as thinners for slow-setting paints and varnishes.

Properties

2. The material shall conform to the following requirements:

Appearance.....	clear and free of suspended matter and water
Color.....	water white, not darker than No. 21 Saybolt Chromometer
Flash point, min.....	125 F (51.5 C)
Blackening.....	shall not blacken or corrode clean metallic copper in 30 min at boiling point of spirits
Distillation:	
Initial boiling point, min.....	340 F (171 C)
95 per cent (by volume).....	460 F (238 C)
End point, max.....	485 F (251.5 C)
Acidity of distillation residue.....	neutral

Methods of Testing

3. The properties enumerated in these specifications shall be determined in accordance with the following methods of test:

(a) *Color*.—Method of Test for Saybolt Color of Refined Petroleum Products (Saybolt Chromometer Method) (ASTM Designation: D 156).^{2a} A fresh aqueous solution of potassium dichromate in distilled water, containing 0.0048 g of $K_2Cr_2O_7$ per liter, is approximately equivalent to color No. 21 Saybolt Chromometer.

(b) *Flash Point*.—Method of Test for Flash Point by Tag Closed Tester (ASTM Designation: D 56).³

(c) *Blackening*.⁴—A clean strip of mechanically polished pure sheet copper,

^{2a} 1958 Book of ASTM Standards, Part 7.

³ Appears in this publication, see Contents in Numeric Sequence of ASTM Designations at front of book.

⁴ A revised procedure for this test for blackening is described in the Method of Test for Copper Corrosion by Mineral Spirits (Copper Strip Test) (ASTM Designation: D 1616), see p. 363. A revision of these Specifications D 965 to refer to Method D 1616 is under consideration by the committee.

about $\frac{1}{2}$ in. (1.3 cm) in width and 3 in. (7.5 cm) in length, shall be placed in a clean glass test tube. Sufficient of the sample to be tested shall be added to cover the strip completely and heated rapidly to boiling. The sample shall be kept boiling for 30 min without any actual distillation taking place and the copper strip then examined for blackening. A slight tarnish shall be disregarded, but any marked blackening shall be cause for rejection.

(d) *Distillation*.—Method of Test for

Distillation of Gasoline, Naphtha, Kerosine, and Similar Petroleum Products (ASTM Designation: D 86).³

(e) *Acidity*.—The cooled residue from the distillation flask shall be collected in a test tube, three volumes of distilled water added, and the contents shaken thoroughly. The mixture shall be allowed to separate and the aqueous layer removed to a clean test tube by means of a pipet. One drop of a 1 per cent solution of methyl orange shall be added. No pink or red color shall be formed.

¹ Under the standardization procedure of the Society, these specifications are under the jurisdiction of the ASTM Committee D-1 on Paint, Varnish, Lacquer, and Related Products.

² Accepted by the Society at the Annual Meeting, June, 1948.