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Standard Specification for Raw Linseed Oil[1]

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1. Scope

1.1 This specification covers raw linseed oil.

2. Referenced Documents

2.1 *ASTM Standards:*

D 93 Test Methods for Flash Point by Pensky-Martens Closed Tester[2]

D 555 Guide for Testing Drying Oils[3]

D 1466 Test Method for Sampling Liquid Oils and Fatty Acids Commonly Used in Paints, Varnishes, and Related Materials[3]

D 1544 Test Method for Color of Transparent Liquids (Gardner Color Scale)[4]

D 1639 Test Method for Acid Value of Organic Coating Materials[3]

D 1954 Test Method for Foots in Raw Linseed Oil (Volumetric Method)[3]

D 1959 Test Method for Iodine Value of Drying Oils and Fatty Acids[3]

D 1960 Test Method for Loss on Heating of Drying Oils[3]

D 1962 Test Method for Saponification Value of Drying Oils, Fatty Acids, and Polymerized Fatty Acids[3]

D 1963 Test Method for Specific Gravity of Drying Oils, Varnishes, Resins, and Related Materials at 25/25°C[3]

D 1965 Test Method for Unsaponifiable Matter in Drying Oils, Fatty Acids, and Polymerized Fatty Acids[3]

D 1966 Test Method for Foots in Raw Linseed Oil (Gravimetric Method)[3]

TABLE 1 Properties of Raw Linseed Oil

Property	Requirement	ASTM Method
Specific gravity, 25/25°C	0.926 to 0.931	D 1963
Acid value, max	4.0	D 1639
Saponification value	189.0 to 195.0	D 1962
Unsaponifiable matter, max, %	1.50	D 1965
Iodine value (Wijs), min	177	D 1959
Loss on heating at 105 to 110°C, max, %	0.2	D 1960
Clarity	clear and transparent at 65°C	D 2090
Color (Gardner), max	13	D 1544
Foots, volumetric, heated oil, max, %	1.0	D 1954
Foots, volumetric, chilled oil, max, %	4.0	D 1954
Gravimetric foots, max %	0.25	D 1966
Flash point, min, °F	250	D 93

D 2090 Test Method for Clarity and Cleanness of Paint and Ink Liquids[3]

3. Properties

3.1 Linseed oil shall be the oil obtained from flaxseed and shall conform to the requirements given in Table 1.

NOTE 1—It is recognized that raw linseed oil is a natural product and that, in unusual crop years, the color, iodine value and acid value may vary from the stated specification limits. In this case the limits shall be agreed upon between the purchaser and the supplier.

4. Test Methods

4.1 *Sampling*—Sampling should be conducted in accordance with Test Method D 1466.

4.2 The properties enumerated in this specification shall be determined in accordance with the applicable ASTM methods listed in Table 1. The significance of the methods of testing enumerated under properties in this specification is discussed in Guide D 555.

5. Keywords

5.1 drying oils; linseed oil

[1] This specification is under the jurisdiction of ASTM Committee D-1 on Paint and Related Coatings, Materials, and Applications, and is the direct responsibility of D01.32 on Drying Oils.

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[2] *Annual Book of ASTM Standards*, Vol 05.01.

[3] *Annual Book of ASTM Standards*, Vol 06.03.

[4] *Annual Book of ASTM Standards*, Vol 06.01.