



Standard Specification for Degummed Soybean Oil¹

This standard is issued under the fixed designation D 124; 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.

1. Scope

1.1 This specification covers degummed soybean oil suitable for use in the paint and varnish industry.

2. Referenced Documents

2.1 ASTM Standards:

- D 93 Test Methods for Flash Point by Pensky-Martens Closed Tester²
- D 555 Guide for Testing Drying Oils³
- D 1466 Test Method for Sampling Liquid Oils and Fatty Acids Commonly Used in Paints, Varnishes, and Related Materials³
- D 1475 Test Method for Density of Paint, Varnish, Lacquer, and Related Products⁴
- D 1544 Test Method for Color of Transparent Liquids (Gardner Color Scale)⁴
- D 1639 Test Method for Acid Value of Organic Coating Materials³
- D 1952 Test Method for Quantitative Determination of Break in Drying Oils³
- D 1959 Test Method for Iodine Value of Drying Oils and Fatty Acids³
- D 1960 Test Method for Loss on Heating of Drying Oils³
- D 1962 Test Method for Saponification Value of Drying Oils, Fatty Acids, and Polymerized Fatty Acids³
- D 1963 Test Method for Specific Gravity of Drying Oils, Varnishes, Resins, and Related Materials at 25/25°C³
- D 1965 Test Method for Unsaponifiable Matter in Drying Oils, Fatty Acids, and Polymerized Fatty Acids³

- D 1967 Test Method for Measuring Color After Heating of Drying Oils³
- D 2090 Test Method for Clarity and Cleanness of Paint and Ink Liquids³
- D 3278 Test Methods for Flash Point of Liquids by Small Scale Closed-Cup Apparatus⁴

3. Properties

3.1 Degummed soybean oil shall conform to the requirements in Table 1 .

TABLE 1 Physical Properties

Property	Requirement	ASTM Test Method
Specific gravity, 25/25°C	0.917 to 0.924	D 1963, D 1475
Acid value, max	3.0	D 1639
Saponification value	189 to 195	D 1962
Unsaponification matter, max, %	1.5	D 1965
Break, max, %	0.10	D 1952
Iodine value (Wijs), min	126	D 1959
Loss on heating at 105 to 110°C, max, %	0.3	D 1960
Clarity	clear and transparent at 65°C	D 2090
Color (Gardner 1933), max	12	D 1544
Color (after heating), max	12	D 1967
Flash point	over 203°F (95°C)	D 93, D 3278

4. Test Methods

4.1 *Sampling*—Sampling shall 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 test 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; soybean 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 Subcommittee D01.32 on Drying Oils.

Current edition approved Oct. 31, 1988. Published December 1988. Originally published as D 124 – 22. Last previous edition D 124 – 87.

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.

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