



## Standard Specification for Refined Sunflower Oil<sup>1</sup>

This standard is issued under the fixed designation D 3169; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This specification covers once-refined sunflower oil, technical grade, suitable for use in protective coatings.

### 2. Referenced Documents

#### 2.1 ASTM Standards:

D 555 Guide for Testing Drying Oils<sup>2</sup>

D 1466 Test Method for Sampling Liquid Oils and Fatty Acids Commonly Used In Paints, Varnishes, and Related Materials<sup>2</sup>

D 1544 Test Method for Color of Transparent Liquids (Gardner Color Scale)<sup>3</sup>

D 1639 Test Method for Acid Value of Organic Coating Materials<sup>2</sup>

D 1952 Test Method for Quantitative Determination of Break in Drying Oils<sup>2</sup>

D 1959 Test Method for Iodine Value of Drying Oils and Fatty Acids<sup>2</sup>

D 1960 Test Method for Loss on Heating of Drying Oils<sup>2</sup>

D 1962 Test Method for Saponification Value of Drying Oils, Fatty Acids, and Polymerized Fatty Acids<sup>2</sup>

D 1963 Test Method for Specific Gravity of Drying Oils, Varnishes, Resins, and Related Materials at 25/25°C<sup>2</sup>

D 1965 Test Method for Unsaponifiable Matter in Drying Oils, Fatty Acids, and Polymerized Fatty Acids<sup>2</sup>

D 1967 Test Method for Color After Heating of Drying Oils<sup>2</sup>

D 2090 Test Method for Clarity and Cleanness of Paint and Ink Liquids<sup>2</sup>

### 3. Properties

3.1 Sunflower oil shall be obtained solely from sunflower seed and shall be suitably processed to conform to the requirements given in Table 1.

TABLE 1 Properties of Once-Refined Sunflower Oil

Property	Requirement	ASTM Test Method
Specific gravity 25/25°C	0.918 to 0.921	D 1963
Acid value	0.3 max	D 1639
Saponification value	188 to 194	D 1962
Unsaponifiable matter, %	1.5 max	D 1965
Iodine value (Wijs)	134 to 144	D 1959
Loss on heating at 105°C, %	0.2 max	D 1960
Color	7 max	D 1544
Color after heating	2 max	D 1967
Quantitative break, %	0.02 max	D 1952
Clarity	clear and transparent at 25°C	D 2090

### 4. Sampling

4.1 Sample in accordance with Test Method D 1466.

### 5. Test Methods

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

### 6. Keywords

6.1 drying oils; sunflower oil

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.32 on Drying Oils.

Current edition approved Oct. 27, 1989. Published December 1989. Originally published as D 3169 – 73(1988). Last previous edition D 3169 – 73(1988).

<sup>2</sup> Annual Book of ASTM Standards, Vol 06.03.

<sup>3</sup> Annual Book of ASTM Standards, Vol 06.01.

ASTM International takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, at the address shown below.



**D 3169**

*This standard is copyrighted by ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States. Individual reprints (single or multiple copies) of this standard may be obtained by contacting ASTM at the above address or at 610-832-9585 (phone), 610-832-9555 (fax), or [service@astm.org](mailto:service@astm.org) (e-mail); or through the ASTM website ([www.astm.org](http://www.astm.org)).*