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AMERICAN SOCIETY FOR TESTING AND MATERIALS
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Standard Methods of Testing Polymerized Fatty Acids[1]

This standard is issued under the fixed designation D 2575; 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 These methods cover selection and application of procedures for testing polymerized fatty acids specifying the use of other ASTM methods.

1.2 The procedures appear in the following sections:

	Section	ASTM Method
Terminology	3	...
Sampling	4	D 1466
Acid Value	5	D 1980
Saponification Value	6	D 1962
Unsaponifiable Matter	7	D 1965
Water, (Karl Fischer)	8	D 1364
Color, Gardner	9	D 1544

2. Referenced Documents

2.1 *ASTM Standards:*

D 1364 Test Method for Water in Volatile Solvents (Karl Fischer Reagent Titration Method)[2]

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

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

D 1980 Test Method for Acid Value of Fatty Acids and Polymerized Fatty Acids[3]

3. Terminology

3.1 *Definitions:*

3.1.1 *polymerized fatty acids*—polycarboxylic acids produced by polymerizing acids from animal or vegetable fats and oils, in either an ester or free acid state, by means of heat alone or catalytically.

4. Sampling

4.1 Sample the material in accordance with Test Method D 1466.

5. Acid Value

5.1 Determine acid value in accordance with Test Method D 1980.

5.2 The precision of the method (95 % confidence level for polymerized fatty acids) in the range of values from 162 to 195 is as follows: repeatability, ±1.5; reproducibility, ±2.4.

6. Saponification Value

6.1 Determine saponification value in accordance with Test Method D 1962.

6.2 The precision of the method (95 % confidence level) in the range of values from 187 to 197 is as follows: repeatability,± 10.7; reproducibility, ±11.1.

7. Percent of Unsaponifiable Matter

7.1 Determine the percent of unsaponifiable matter in accordance with Method D 1965.

7.2 The precision of the method (95 % confidence level) in the range of values from 0.3 to 2.6 is as follows: repeatability,± 0.53; reproducibility, ±0.75.

8. Water by the Karl Fisher Method

8.1 Determine moisture in accordance with Test Method D 1364.

8.2 The precision of the method (95 % confidence level) in the range of values from 0.0 to 1.2 % is as follows: repeatability, ±0.16; reproducibility, ±0.17.

9. Color by the Gardner Method

9.1 The Gardner color system was chosen as best suited for reporting the colors of these products.

9.2 Determine the color in accordance with Test Method D 1544.

9.3 The precision of the method (95 % confidence level) in the range of values from 1 to 18 is as follows: repeatability, ±0.6 unit, reproducibility, ±1.6 units.

10. Keywords

10.1 fatty acids; polymerized fatty acids.

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[1] These methods are under the jurisdiction of ASTM Committee D-1 on Paints and Related Coatings, Materials, and Applications and is the direct responsibility of D 01.32 on Drying Oils.

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[2] *Annual Book of ASTM Standards*, Vol 06.04.

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

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