



Standard Test Methods for Sampling and Testing Plasticizers Used in Plastics¹

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1. Scope

1.1 These test methods cover sampling and testing of liquid plasticizers used in compounding of plastics. Acid number, ester content, specific gravity, color, refractive index, and water content are determined.

1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.* Specific hazards information is given in Section 5.

NOTE 1—There is no similar or equivalent ISO standard.

2. Referenced Documents

2.1 ASTM Standards:

- D 70 Test Method for Specific Gravity of Semi-Solid Bituminous Materials²
- D 287 Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method)³
- D 792 Test Methods for Specific Gravity (Relative Density) and Density of Plastics by Displacement⁴
- D 883 Terminology Relating to Plastics⁴
- D 1193 Specification for Reagent Water⁵
- D 1600 Terminology for Abbreviated Terms Relating to Plastics⁴
- D 1807 Test Methods for Refractive Index and Specific Optical Dispersion of Electrical Insulating Liquids⁶
- D 3465 Practice for Purity of Monomeric Plasticizers by Gas Chromatography⁷
- D 4052 Test Method for Density and Relative Density of

¹ These methods are under the jurisdiction of ASTM Committee D-20 on Plastics and are the direct responsibility of Subcommittee D20.15 on Thermoplastics Materials (Section D20.15.11 on Plasticizers).

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This edition contains changes in Section 1 to include an ISO equivalency statement.

² Annual Book of ASTM Standards, Vol 04.03.

³ Annual Book of ASTM Standards, Vol 05.01.

⁴ Annual Book of ASTM Standards, Vol 08.01.

⁵ Annual Book of ASTM Standards, Vol 11.01.

⁶ Annual Book of ASTM Standards, Vol 10.03.

⁷ Annual Book of ASTM Standards, Vol 08.02.

Liquids by Digital Density Meter⁸

E 1 Specification for ASTM Thermometers⁹

E 203 Test Method for Water Using Karl Fischer Reagent¹⁰

3. Terminology

3.1 *Definitions*—Definitions are in accordance with Terminology D 883 and Terminology D 1600, unless otherwise indicated.

4. Significance and Use

4.1 These test methods may be used in establishing and confirming quality control standards for liquid plasticizers used in the compounding of plastics.

5. Hazards

5.1 *Chemical Hazard of Reagents*—Some of the chemicals used in this test method may be hazardous. Accepted laboratory safety procedures must be followed. See suppliers' material safety data sheets for further information.

6. Sampling

6.1 The method of sampling specified in 6.2 or 6.3 shall be used, according to the special conditions that exist.

6.2 *From Loaded Tank Car or Other Large Vessel*—The composite sample taken shall be not less than 2 L (½ gal) and should consist of small samples of not more than 1 L (1 qt) each, taken from near the top and bottom by means of a metal or glass container with removable stopper or top. This device, attached to a suitable pole, shall be lowered to the desired depth, when the stopper or top shall be removed and the container allowed to fill. A bomb sampler attached to a chain is convenient to use; the opening should be adjusted so that the bomb will fill on the way down.

6.3 *From Barrels and Drums*—At least 5 % of the packages in any shipment shall be represented in the sample. The purchaser may increase the percentage of packages to be sampled at his discretion; in the case of plasticizers that are purchased in small quantity, each package may be sampled and analyzed, if desired. A portion shall be withdrawn from near the center of each package sampled by means of a “thief” or other sampling device and composited. The composite sample thus obtained shall be not less than 1 L (1 qt) and shall consist

⁸ Annual Book of ASTM Standards, Vol 05.03.

⁹ Annual Book of ASTM Standards, Vol 14.03.

¹⁰ Annual Book of ASTM Standards, Vol 15.05.