



Standard Specification for Octyl Ortho-Phthalate Ester Plasticizers¹

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1. Scope

1.1 This specification covers octyl orthophthalate ester plasticizers, suitable for use in the compounding of plastics.

NOTE 1—There are no ISO standards covering the primary subject of this specification.

NOTE 2—The properties included in this specification are those required to identify the type of plasticizer covered. There may be other requirements necessary to identify particular characteristics. These will be added to this specification as their inclusion becomes desirable and the necessary test data and methods become available.

1.2 *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.*

2. Referenced Documents

2.1 ASTM Standards:

D 883 Terminology Relating to Plastics²

D 1045 Methods of Sampling and Testing Plasticizers Used in Plastics²

D 1600 Terminology for Abbreviated Terms Relating to Plastics²

D 3892 Practice for Packaging/Packing of Plastics³

E 203 Test Method for Water Using Karl Fischer Reagent⁴

3. Terminology

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

4. Classification

4.1 This specification covers two types of octyl orthophthalate ester plasticizers:

4.1.1 *Type I*, 2-ethyl hexyl phthalate ester, and

4.1.2 *Type II*, mixed *isooctyl* phthalate ester.

5. Chemical Requirements

5.1 The plasticizer shall conform to the requirements prescribed in Table 1.

6. Physical Requirements

6.1 The plasticizer shall be substantially free of suspended matter.

6.2 The odor of the plasticizer shall be mild.

7. Sampling and Test Methods

7.1 Sample and test the plasticizer in accordance with Methods D 1045 and determine moisture in accordance with Test Method E 203.

8. Retest and Rejection

8.1 If any failure occurs, the materials may be retested to establish conformity in accordance with agreement between the purchaser and the seller.

9. Packaging and Package Marking

9.1 *Packaging*—The material shall be packaged in standard commercial containers, so constructed as to ensure acceptance by common or other carriers for safe transportation at the lowest rate to the point of delivery, unless otherwise specified in the contract or order.

9.2 *Package Marking*—Shipping containers shall be marked with the name of the material, type, and the quantity contained therein, as defined by the contract or order under which shipment is made, the name of the manufacturer, and the number of the contract or order.

9.3 All packing, packaging, and marking provisions of Practice D 3892 shall apply to this specification.

10. Keywords

10.1 octyl-ortho-phthalate ester; plasticizers

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² *Annual Book of ASTM Standards*, Vol 08.01.

³ *Annual Book of ASTM Standards*, Vol 08.02.

⁴ *Annual Book of ASTM Standards*, Vol 15.05.

TABLE 1 Detail Requirements for Octyl Orthophthalate Ester Plasticizer

	Type I	Type II
	2-Ethyl Hexyl Phthalate Ester	Mixed /Isooctyl Phthalate Ester
Acidity (calculated as acetic acid), max, weight %	0.007	0.007
Acid number, max, mg of KOH/g of sample	0.067	0.067
Ester content, min, weight %	99.0	99.0
Specific gravity, 20/20 C ^A	0.983 to 0.988	0.983 to 0.993
Color, max, platinum-cobalt (APHA) scale	35	35
Moisture, max %	0.1	0.1

^A For the convenience of laboratories that employ 23°C conditions, corresponding requirement for specific gravity at 23/23°C are as follows:

Type I	0.981 to 0.986
Type II	0.981 to 0.990

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