



Standard Specification for Tricresyl Phosphate¹

This standard is issued under the fixed designation D 363; 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 tricresyl phosphate (99.0 % grade) prepared from commercial cresylic acid.

1.2 For specific hazard information and guidance, see the supplier's Material Safety Data Sheets for materials listed in this specification.

2. Referenced Documents

2.1 ASTM Standards:

D 268 Guide for Sampling and Testing Volatile Solvents and Chemical Intermediates for Use in Paint and Related Coatings and Materials²

D 1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)²

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

D 1399 Test Method for Unsaponifiable Contents of Tricresyl Phosphate²

D 1468 Test Method for Volatile Matter in Tricresyl Phosphate²

D 1613 Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer and Related Products²

D 1721 Test Method for Permanganate Time of Tricresyl Phosphate²

D 4052 Test Method for Density and Relative Density of Liquids by Digital Density Meter³

E 300 Practice for Sampling Industrial Chemicals⁴

2.2 U.S. Federal Specification:

PPP-C-2020 Chemicals, Liquid, Dry, and Paste: Packaging of⁵

3. Properties

3.1 Tricresyl phosphate shall conform to the following requirements:

Apparent specific gravity:	
20/20°C	1.150 to 1.180
25/25°C	1.147 to 1.177
Color, Pt-Co scale, max	100
Volatile matter, max, weight %	0.20
Potassium permanganate test	A
Unsaponifiable matter, max, weight %	0.5
Water content, max, weight %	0.1
Acidity, mg of KOH per gram of sample, max	0.1

^A Color of added KMnO_4 to be retained at least 30 min.

4. Sampling

4.1 The material shall be sampled in accordance with Practice E 300.

5. Test Methods

5.1 The properties enumerated in this specification shall be determined in accordance with the following ASTM methods:

5.1.1 *Apparent Specific Gravity*—Determine the apparent specific gravity at 20°C or 25°C by a convenient method that is accurate to the third decimal place. See Guide D 268 or Test Method D 4052.

5.1.2 *Color*—Test Method D 1209.

5.1.3 *Volatile Matter*—Test Method D 1468.

5.1.4 *Potassium Permanganate Test*—Test Method D 1721.

5.1.5 *Unsaponifiable Matter*—Test Method D 1399.

5.1.6 *Water*—Test Method D 1364.

5.1.7 *Acidity*—Test Method D 1613.

6. Packaging and Package Marking

6.1 Package size shall be agreed upon between the purchaser and the supplier.

6.2 Packaging shall conform to applicable carrier rules and regulations or when specified shall conform to Fed. Spec. PPP-C-2020.

7. Keywords

7.1 tricresyl phosphate

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 D01.35 on Solvents, Plasticizers, and Chemical Intermediates.

Current edition approved May 25, 1990. Published July 1990. Originally published as D 363 – 33. Last previous edition D 363 – 85.

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

³ *Annual Book of ASTM Standards*, Vol 05.02.

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

⁵ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.