



Designation: D 3548 – 99

Standard Specification for Ethyl Acrylate¹

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1. Scope

1.1 This specification covers ethyl acrylate (99 % grade) for use in paint, varnish, lacquer, and related products.

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

1.3 *This standard may involve hazardous materials, operations, and equipment. This standard does not purport to address all of the safety problems 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 hazard statements are given in 4.1.*

2. Referenced Documents

2.1 ASTM Standards:

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

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

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

D 3125 Test Method for Monomethyl Ether of Hydroquinone in Colorless Monomeric Acrylate Esters and Acrylic Acid²

D 3362 Test Method for Purity of Acrylate Esters by Gas Chromatography²

E 300 Practice for Sampling Industrial Chemicals³

2.2 U.S. Federal Specification:

PPP-C-2020 Packaging of Chemicals, Liquid, Dry, and Paste⁴

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.

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

³ *Annual Book of ASTM Standards*, Vol 15.05.

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

3. Properties

3.1 Ethyl acrylate shall conform to the following requirements:

Purity wt % as ethyl acrylate, min	99.2
Water wt %, max	0.08
Color, Pt-Co scale, max	10 in bulk shipments, 20 in drum shipments
Acidity (free acid as acrylic acid) wt %, max	0.008
Methyl ether of hydroquinone	as agreed upon between the purchaser and the manufacturer

4. Precaution

4.1 Ethyl acrylate samples should be stored in amber bottles or protected from light by other means to aid in preventing polymerization. Keep samples away from heat sources and chemicals that can cause free radical polymerization. Ethyl acrylate can polymerize violently evolving considerable heat. Refer to supplier's Material Safety Data Sheet.

5. Sampling

5.1 The material shall be sampled in accordance with Practice E 300. (See Precaution Section 4.)

6. Test Methods

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

6.1.1 *Purity*—Test Method D 3362.

6.1.2 *Water*—Test Method D 1364.

6.1.3 *Color*—Test Method D 1209.

6.1.4 *Acidity*—Determine the acidity in accordance with Test Method D 1613, except multiply the results obtained “as acetic acid” by 72.06/60.05 or 1.2. This will convert the results obtained to “as acrylic acid.” The results obtained “as mg KOH per gram of material” are unaffected.

6.1.5 *Methyl Ether of Hydroquinone Content*—Test Method D 3125.

7. Packaging and Package Marking

7.1 Package size shall be agreed upon by the purchaser and the supplier.