



Standard Specification for 2-Ethylhexyl Acrylate¹

This standard is issued under the fixed designation D 3541; 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 2-ethylhexyl acrylate (99 % grade) for use in paint, varnish, lacquer, and related products.

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.* Specific hazard statements are given in Section 4.1.

1.3 For specific hazard information and guidance, consult supplier's Material Safety Data Sheet.

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 Chemicals, Liquid, Dry, and Paste: Packaging of ⁴

3. Properties

3.1 2-Ethylhexyl acrylate shall conform to the following requirements:

¹ This specification is under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D 01.35 on Solvents, Plasticizers, and Chemical Intermediates.

Current edition approved May 15, 1991. Published July 1991. Originally published as D 3541 – 76. Last previous edition D 3541 – 86.

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, Attn: NPODS.

Purity wt % as 2 ethylhexyl acrylate, min	99.0
Water	0.10
Color, Pt-Co scale, max	10 in bulk shipments, 20 in drum shipments
Acidity (free acid as acrylic acid) wt %, max	0.01
Methyl ether of hydroquinone	as agreed upon between the purchaser and the manufacturer

4. Hazards

4.1 Store 2-Ethylhexyl acrylate samples in amber bottles or protect them from light by other means to aid in preventing polymerization. Keep samples away from heat sources and chemicals that can cause free radical polymerization. 2-Ethylhexyl 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 Hazard 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/gram of material” are unaffected.

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

7. Packaging and Package Marking

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

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

8. Keywords

8.1 ethylhexyl; ethylhexyl acrylate; 2-ethylhexyl; 2-ethylhexylester; octyl acrylate; 2-propenoate; 2-propenoic acid

 D 3541

The American Society for Testing and Materials takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, at the address shown below.

This standard is copyrighted by ASTM, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States. Individual reprints (single or multiple copies) of this standard may be obtained by contacting ASTM at the above address or at 610-832-9585 (phone), 610-832-9555 (fax), or service@astm.org (e-mail); or through the ASTM website (www.astm.org).