Designation: D 2827 – 00

Standard Specification for Styrene Monomer[1]

This standard is issued under the fixed designation D 2827; 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 styrene monomer.

1.2 The following applies to all specified limits in this standard: for purposes of determining conformance with this standard, an observed value or a calculated value shall be rounded off "to the nearest unit" in the last right-hand digit used in expressing the specification limit, in accordance with the rounding-off method of Practice E 29.

1.3 Consult current OSHA regulations, supplier's Material Safety Data Sheets, and local regulations for all materials used in this specification.

2. Referenced Documents

2.1 *ASTM Standards:*

D 1016 Test Method for Purity of Hydrocarbons from Freezing Points[2]

D 1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)[3]

D 2119 Test Method for Aldehydes in Styrene Monomer[3]

D 2121 Test Methods for Polymer Content of Styrene Monomer and AMS (α—Methylstyrene)[3]

D 2340 Test Method for Peroxides in Styrene Monomer[3]

D 3437 Practice for Sampling and Handling Liquid Cyclic Products[3]

D 4590 Test Method for Colorimetric Determination of *p-tert*-Butylcatechol in Styrene Monomer or AMS (α—Methylstyrene) by Spectrophotometry[3]

D 5135 Test Method for Analysis of Styrene by Capillary Gas Chromatography[3]

D 5386 Test Method for Color of Liquids Using Tristimulus Colorimetry[3]

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications[4]

2.2 *Other Document:*

OSHA Regulations, 29 CFR, paragraphs 1910.1000 and 1910.1200[5]

3. Properties

3.1 Styrene monomer shall conform to the following requirements:

Property	Specification	ASTM Test Method
Purity, min, weight %,	99.7[A]	D 5135
Aldehydes, max, weight % as benzaldehyde,	0.02	D 2119
Peroxides, max, mg/kg as H_2O_2	100	D 2340
Polymer, max, mg/kg,	10	D 2121, Test Method A
Inhibitor, mg/kg	10 to 15 (or as required)	D 4590
Color, max, Pt/Co scale,	10	D 1209
or		
Color, max, Pt/Co scale,	15	D 5386

[A] The most common impurities can be determined by Test Method D 5135.

NOTE 1—Note that weight percent purity of this specification is equivalent to mol percent purity as determined by Test Method D 1016.

4. Sampling

4.1 The material shall be sampled in accordance with Practice D 3437.

5. Keywords

5.1 styrene; styrene monomer

[1] This specification is under the jurisdiction of ASTM Committee D16 on Aromatic Hydrocarbons and Related Chemicals and is the direct responsibility of Subcommittee D16.07 on Styrene, Ethylbenzene, and C_9 and C_{10} Aromatic Hydrocarbons.

Current edition approved June 10, 2000. Published August 2000. Originally published as D 2827 – 69 T. Last previous edition D 2827 – 95.

[2] *Annual Book of ASTM Standards*, Vol 05.01.

[3] *Annual Book of ASTM Standards*, Vol 06.04.

[4] *Annual Book of ASTM Standards*, Vol 14.02.

[5] Available from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.