



# Standard Specification for Styrene Monomer<sup>1</sup>

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 ( $\epsilon$ ) 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<sup>2</sup>
- D 1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)<sup>3</sup>
- D 2119 Test Method for Aldehydes in Styrene Monomer<sup>3</sup>
- D 2121 Test Methods for Polymer Content of Styrene Monomer and AMS ( $\alpha$ -Methylstyrene)<sup>3</sup>
- D 2340 Test Method for Peroxides in Styrene Monomer<sup>3</sup>
- D 3437 Practice for Sampling and Handling Liquid Cyclic Products<sup>3</sup>
- D 4590 Test Method for Colorimetric Determination of *p-tert*-Butylcatechol in Styrene Monomer or AMS ( $\alpha$ -Methylstyrene) by Spectrophotometry<sup>3</sup>
- D 5135 Test Method for Analysis of Styrene by Capillary Gas Chromatography<sup>3</sup>

<sup>1</sup> 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<sub>9</sub> and C<sub>10</sub> Aromatic Hydrocarbons.

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 05.01.

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 06.04.

D 5386 Test Method for Color of Liquids Using Tristimulus Colorimetry<sup>3</sup>

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications<sup>4</sup>

### 2.2 Other Document:

OSHA Regulations, 29 CFR, paragraphs 1910.1000 and 1910.1200<sup>5</sup>

## 3. Properties

3.1 Styrene monomer shall conform to the following requirements:

Property	Specification	ASTM Test Method
Purity, min, weight %	99.7 <sup>A</sup>	D 5135
Aldehydes, max, weight % as benzaldehyde	0.02	D 2119
Peroxides, max, mg/kg as H <sub>2</sub> O <sub>2</sub>	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, or	10	D 1209
Color, max, Pt/Co scale,	15	D 5386

<sup>A</sup> 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

<sup>4</sup> *Annual Book of ASTM Standards*, Vol 14.02.

<sup>5</sup> Available from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.



## D 2827

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