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Standard Specification for Refined Benzene-485^{1,2}

This standard is issued under the fixed designation D 835; 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 reappraisal. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reappraisal.

1. Scope

1.1 This specification covers a nitration grade of benzene known as refined benzene 485.

1.2 Consult current OSHA regulations and supplier's Material Safety Data Sheets for all materials utilized in this specification.

1.3 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 round-off method of Practice E 29.

2. Referenced Documents

2.1 ASTM Standards:

- D 847 Test Method for Acidity of Benzene, Toluene, Xylenes, Solvent Naphthas, and Similar Industrial Aromatic Hydrocarbons³
- D 848 Test Method for Acid Wash Color of Industrial Aromatic Hydrocarbons³
- D 849 Test Method for Copper Strip Corrosion of Industrial Aromatic Hydrocarbons³
- D 850 Test Method for Distillation of Industrial Aromatic Hydrocarbons and Related Materials³
- D 852 Test Method for Solidification Point of Benzene³
- D 853 Test Method for Hydrogen Sulfide and Sulfur Dioxide Content (Qualitative) of Industrial Aromatic Hydrocarbons³
- D 1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)³
- D 3437 Practice for Sampling and Handling Liquid Cyclic Products³
- D 3505 Test Method for Density or Relative Density of Pure Liquid Chemicals³
- D 4052 Test Method for Density and Relative Density of Liquids by Digital Density Meter⁴

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications⁵

2.2 Federal Specification:

PPP-C-2020 Packaging of Chemicals, Liquid, Dry, and Paste⁶

2.3 Other Document:

OSHA Regulations, 29 CFR, paragraphs 1910.1000 and 1910.1200⁷

3. Properties

3.1 Refined benzene 485 shall conform to the following requirements:

Property	Specification	ASTM Test Method
Acid wash color, max	pass with 2	D 848
Acidity	none detected	D 847
Copper corrosion	pass (1A or 1B)	D 849
Hydrogen sulfide (H ₂ S) and sulfur dioxide (SO ₂)	none detected	D 853
Appearance	4	...
Color, Pt/Co scale, max	20	D 1209
Relative density, 15.56/15.56°C	0.8820 to 0.8860	D 3505 or D 4052
or		
Density, 20°C, g/mL	0.8780 to 0.8820	...
Distillation range including the temperature 80.1°C at 101.3 kPa (760 mm Hg pressure), max, °C	1.0	D 850
Solidification point, anhydrous basis, min, °C	4.85	D 852

⁴ Clear liquid free of sediment and haze when observed at 18.3 to 25.6°C (65 to 78°F).

4. Sampling

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

5. Packaging and Labeling for U.S. Government Procurements

5.1 United States Government procurements shall be packaged and labeled in accordance with the applicable paragraphs of Fed. Spec. PPP-C-2020.

6. Keyword

6.1 benzene-485

¹ This specification is under the jurisdiction of ASTM Committee D-16 on Aromatic Hydrocarbons and Related Chemicals and is the direct responsibility of Subcommittee D 16.0A on BTX, Cyclohexane, and Their Derivatives.

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² This material was formerly known as "nitration grade benzene."

³ Annual Book of ASTM Standards, Vol 06.04.

⁴ Annual Book of ASTM Standards, Vol 05.02.

⁵ Annual Book of ASTM Standards, Vol 14.02.

⁶ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

⁷ Available from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.