



Designation: D841 – 11

## Standard Specification for Nitration Grade Toluene<sup>1</sup>

This standard is issued under the fixed designation D841; 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 nitration grade toluene.

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 E29.

1.3 Consult 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*:<sup>2</sup>

D848 Test Method for Acid Wash Color of Industrial Aromatic Hydrocarbons

D849 Test Method for Copper Strip Corrosion by Industrial Aromatic Hydrocarbons

D850 Test Method for Distillation of Industrial Aromatic Hydrocarbons and Related Materials

D1209 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)

D2360 Test Method for Trace Impurities in Monocyclic Aromatic Hydrocarbons by Gas Chromatography

D3437 Practice for Sampling and Handling Liquid Cyclic Products

D5386 Test Method for Color of Liquids Using Tristimulus Colorimetry

D7504 Test Method for Trace Impurities in Monocyclic Aromatic Hydrocarbons by Gas Chromatography and Effective Carbon Number

E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

2.2 *Federal Specification*:<sup>3</sup>

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

2.3 *Other Document*:

OSHA Regulations, 29 CFR paragraphs 1910.1000 and 1910.1200<sup>4</sup>

### 3. Properties

3.1 Nitration grade toluene shall conform to the following requirements:

Property	Specification	ASTM Test Method <sup>A</sup>
Nonaromatic hydrocarbons, max, volume % (wt %)	1.5 (1.2)	D2360 or D7504
Acid wash color, max	pass with 2	D848
Copper corrosion Appearance	pass (1A or 1B) <sup>B</sup>	D849
Color, Pt/Co scale, max	20	D1209 or D5386
Distillation range including the temperature 110.6°C at 101.3 kPa (760 mm Hg pressure), max, °C	1.0	D850
1,4-dioxane, max, mg/kg	as needed	D7504

<sup>A</sup> If more than one method is listed, the producer and user should agree on the reference method.

<sup>B</sup> 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 D3437.

### 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. Keywords

6.1 toluene

<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 D16.01 on Benzene, Toluene, Xylenes, Cyclohexane and Their Derivatives.

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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard’s Document Summary page on the ASTM website.

<sup>3</sup> Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098, http://www.dodssp.daps.mil.

<sup>4</sup> Available from U.S. Government Printing Office Superintendent of Documents, 732 N. Capitol St., NW, Mail Stop: SDE, Washington, DC 20401, http://www.access.gpo.gov.

\*A Summary of Changes section appears at the end of this standard