



Designation: D2439 – 12

Standard Specification for Refined Phenol¹

This standard is issued under the fixed designation D2439; 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 refined phenol.

1.2 The following applies to all specified limits in this specification: for purposes of determining conformance with this specification, 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 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.4 Consult current OSHA regulations and supplier’s Material Safety Data Sheets, and local regulations for all materials listed in this specification.

1.5 *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.*

2. Referenced Documents

2.1 *ASTM Standards:*²

D1631 Test Method for Water in Phenol and Related Materials by the Iodine Reagent Method

D1686 Test Method for Color of Solid Aromatic Hydrocarbons and Related Materials in the Molten State (Platinum-Cobalt Scale)

D3852 Practice for Sampling and Handling Phenol, Cresols, and Cresylic Acid

D6875 Test Method for Solidification Point of Industrial Organic Chemicals by Thermistor

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

¹ This specification is under the jurisdiction of ASTM Committee D16 on Aromatic Hydrocarbons and Related Chemicals and is the direct responsibility of Subcommittee D16.02 on Oxygenated Aromatics.

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² 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.

2.2 *Other Document:*

OSHA Regulations, 29 CFR paragraphs 1910.1000 and 1910.1200³

3. Properties

3.1 Refined phenol shall conform to the following requirements when sampled and tested as described:

Property	Specification	ASTM Test method
Water content, max, weight %	0.10	D1631
Solidification point, min, °C	40.6	D6875
Appearance	^A	

^A Molten liquid or crystalline solid, free of sediment and haze.

3.2 See Section 5 for nonmandatory supplemental requirements.

4. Sampling

4.1 The material shall be sampled and the properties enumerated in this specification shall be determined in accordance with the following ASTM methods:

4.1.1 The specimens shall be placed only in a clean and dry glass container sealed with a screw cap fitted with a polyethylene liner. Rubber, cork, or coated paper closures or liners shall not be used. Special care shall be taken to avoid contact with iron, dirt or moisture. Sampling shall be carried out in accordance with Practice D3852.

5. Supplementary Requirements (Non-Mandatory)

5.1 The following supplementary requirement shall apply only when specified by the purchaser in the purchase order or contract:

Property	Specification	ASTM Test Method
Molten color	^A	D1686

^A Refined phenol as produced is essentially colorless. Depending upon both the nature and duration of subsequent handling, it may discolor. Therefore, a rigid specification for color is impractical and for many uses it may be unnecessary. In those cases where such a specification is required, its magnitude will vary widely with the intended usage. It is further recommended that the directives of Practice D3852 be strictly followed in any case where color is important.

6. Keywords

6.1 phenol

³ 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