



Designation: D5471—18 (Reapproved 2022) D5471 – 23

Standard Specification for O-Xylene 980¹

This standard is issued under the fixed designation D5471; 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 a grade of *o*-xylene identified as *ortho*-Xylene 980.

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 Safety Data Sheets, and local regulations for all materials used in this specification.

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

<https://standards.iteh.ai/catalog/standards/sist/3a0b066c-13e0-4d74-920f-7fbee000b8e7/astm-d5471-23>

2.1 ASTM Standards:²

- D850 Test Method for Distillation of Industrial Aromatic Hydrocarbons and Related Materials
- D1492 Test Method for Bromine Index of Aromatic Hydrocarbons by Coulometric Titration
- D3437 Practice for Sampling and Handling Liquid Cyclic Products
- D5386 Test Method for Color of Liquids Using Tristimulus Colorimetry
- D5776 Test Method for Bromine Index of Aromatic Hydrocarbons by Electrometric Titration
- D7504 Test Method for Trace Impurities in Monocyclic Aromatic Hydrocarbons by Gas Chromatography and Effective Carbon Number
- D8005 Test Method for Color of Clear Liquids (Platinum-Cobalt Scale)
- E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications
- E2680 Test Method for Appearance of Clear, Transparent Liquids (Visual Inspection Procedure)

2.2 Other Document:³

OSHA Regulations, 29 CFR Paragraphs 1910.1000 and 1910.1200

¹ This specification is under the jurisdiction of ASTM Committee D16 on Aromatic, Industrial, Specialty and Related Chemicals and is the direct responsibility of Subcommittee D16.01 on Benzene, Toluene, Xylenes, Cyclohexane and Their Derivatives.

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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.

³ Available from U.S. Government Publishing Office (GPO), 732 N. Capitol St., NW, Washington, DC 20401, <http://www.gpo.gov>.

3. Properties

3.1 O-Xylene 980 shall conform to the following requirements:

Property	Specification	ASTM Test Method ^A
Purity, min, wt %	98.0	D7504
Purity, min, mass %	98.0	D7504
Nonaromatic hydrocarbons, max, wt %	0.5	D7504
Nonaromatic hydrocarbons, max, mass %	0.5	D7504
p-Xylene plus m-Xylene, max, wt %	1.3	D7504
p-Xylene plus m-Xylene, max, mass %	1.3	D7504
C9 and heavier aromatics, max, wt %	0.8	D7504
C9 and heavier aromatics, max, mass %	0.8	D7504
Cumene, wt % ^B	0.5	D7504
Cumene, mass % ^B	0.5	D7504
Bromine index, max mg/100 g	100	D1492 or D5776
Appearance, free of haze, particulates or suspended matter particles	pass	E2680
Color, Pt-Co scale, max	10	D5386 or D8005
Distillation range, including the temperature, 144.4 °C at 101.3 kPA (760 mm Hg) pressure, max, °C	2.0	D850

^A If more than one method is listed for a property the producer and user should agree on the referee method.

^B Cumene is a significant component in o-xylene as it may contribute to deflagrations in some processes under certain conditions.

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