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.

Designation: D5917 – 15 (Reapproved 2019)

Standard Test Method for Trace Impurities in Monocyclic Aromatic Hydrocarbons by Gas Chromatography and External Calibration[1]

This standard is issued under the fixed designation D5917; 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 test method covers the determination of the total nonaromatic hydrocarbons and trace monocyclic aromatic hydrocarbons in toluene, mixed xylenes, and *p*-xylene by gas chromatography. The purity of toluene, mixed xylenes, or *p*-xylene can also be calculated. Calibration of the gas chromatographic system is done by the external standard calibration technique. A similar test method, using the internal standard calibration technique, is Test Method D2360.

1.2 Total aliphatic hydrocarbons containing 1 through 10 carbon atoms (methane through decanes) can be detected by this test method at concentrations ranging from 0.001 to 2.500 weight %.

1.2.1 A small amount of benzene in mixed xylenes or *p*-xylenes may not be distinguished from the nonaromatics and the concentrations are determined as a composite (see 6.1).

1.3 Monocyclic aromatic hydrocarbon impurities containing 6 through 10 carbon atoms (benzene through C_{10} aromatics) can be detected by this test method at individual concentrations ranging from 0.001 to 1.000 weight %.

1.4 In determining the conformance of the test results to applicable specifications, results shall be rounded off in accordance with the rounding-off method of Practice E29.

1.5 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.6 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.* For specific hazard statement, see Section 9.

1.7 *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

2.1 *ASTM Standards:*[2]

D841 Specification for Nitration Grade Toluene
D2360 Test Method for Trace Impurities in Monocyclic Aromatic Hydrocarbons by Gas Chromatography (Withdrawn 2016)[3]
D3437 Practice for Sampling and Handling Liquid Cyclic Products
D4052 Test Method for Density, Relative Density, and API Gravity of Liquids by Digital Density Meter
D4307 Practice for Preparation of Liquid Blends for Use as Analytical Standards
D4790 Terminology of Aromatic Hydrocarbons and Related Chemicals
D5136 Specification for High Purity *p*-Xylene
D5211 Specification for Xylenes for *p*-Xylene Feedstock
D6526 Test Method for Analysis of Toluene by Capillary Column Gas Chromatography (Withdrawn 2018)[3]
D6563 Test Method for Benzene, Toluene, Xylene (BTX) Concentrates Analysis by Gas Chromatography (Withdrawn 2018)[3]
D6809 Guide for Quality Control and Quality Assurance Procedures for Aromatic Hydrocarbons and Related Materials
E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications
E260 Practice for Packed Column Gas Chromatography
E355 Practice for Gas Chromatography Terms and Relationships
E691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method

[1] This test method 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] The last approved version of this historical standard is referenced on www.astm.org.

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