



Standard Test Method for C₈ Aromatic Hydrocarbon Analysis by Gas Chromatography¹

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1. Scope

1.1 This test method determines the relative distribution of the individual C₈ aromatic hydrocarbon isomers in the following xylene products:

1.1.1 Nitration grade xylene conforming to Specification D 843.

1.1.2 Xylenes for *p*-Xylene feedstock conforming to Specification D 5211.

1.1.3 Ten-degree xylene conforming to Specification D 846.

1.2 The absolute concentration of hydrocarbon impurities typically found in commercially available mixed C₈ aromatic hydrocarbons should be determined using Test Method D 2360.

1.3 The following applies to all specified limits in this test method: for purposes of determining conformance with this test method, 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 ASTM Practice E 29.

1.4 *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.* For specific hazard statements, see Section 9.

2. Referenced Documents

2.1 ASTM Standards:

D 843 Specification for Nitration Grade Xylene²

D 846 Specification for Ten-Degree Xylene³

D 2360 Test Method for Trace Impurities in Monocyclic Aromatic Hydrocarbons by Gas Chromatography²

D 3437 Practice for Sampling and Handling Liquid Cyclic Products²

¹ This test method 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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² Annual Book of ASTM Standards, Vol 06.04.

³ Discontinued 1991. See 1990 Annual Book of ASTM Standards, Vol 06.03.

D 3797 Test Method for Analysis of *o*-Xylene by Gas Chromatography²

D 3798 Test Method for Analysis of *p*-Xylene by Gas Chromatography²

D 4626 Practice for Calculation of Gas Chromatographic Response Factors⁴

D 4790 Terminology of Aromatic Hydrocarbons and Related Chemicals²

D 5060 Test Method for Determining Impurities in High-Purity Ethylbenzene by Gas Chromatography²

D 5211 Specification for Xylenes for *p*-Xylene Feedstock²

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

E 260 Practice for Packed Column Gas Chromatography⁵

E 355 Practice for Gas Chromatography Terms and Relationships⁵

E 691 Practice for Conducting an Interlaboratory Test Program to Determine the Precision of Test Methods⁵

2.2 Other Document:

OSHA Regulations, 29 CFR, paragraphs 1910.1000 and 1910.1200⁶

3. Terminology

3.1 Definitions:

3.1.1 For definition of terms used in this test method see Terminology D 4790.

4. Summary of Test Method

4.1 The specimen is introduced into a gas chromatograph equipped with either a flame ionization detector (FID) or thermal conductivity detector (TCD). Either packed or capillary columns are permitted. The peak area of each component is measured and the weight percent concentration is calculated by dividing the peak area of the individual component by the sum of the total individual peak areas. The result is multiplied by 100 to get the normalized C₈ aromatic hydrocarbon isomer distribution.

⁴ Annual Book of ASTM Standards, Vol 05.02.

⁵ Annual Book of ASTM Standards, Vol 14.02.

⁶ Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.