

Standard Method of Test for AROMATICS IN LIGHT NAPHTHAS AND AVIATION GASOLINES BY GAS CHROMATOGRAPHY¹



ASTM Designation: D 2267 - 68

This Standard of the American Society for Testing and Materials is issued under the fixed designation D 2267; 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 reappraisal.

1. Scope

1.1 This method covers the determination of benzene, toluene, C₈, and heavier aromatics, and total aromatics in the concentration range from 1.0 to 30 percent of the individual aromatic compounds listed above in the following products: (1) aviation gasolines described in ASTM Specifications D 910, for Aviation Gasolines;² (2) reformer products having a final boiling point below 350 F (177 C); and (3) reformer feed and other petroleum products having a final boiling point below 300 F (149 C). The results are reported to the nearest 0.1 percent by liquid volume.

NOTE 1—ASTM Method D 2600, Test for Aromatic Traces in Light Saturated Hydrocarbons by Gas Chromatography,³ should be used to determine aromatics in concentrations below 1.0.

2. Summary of Method

2.1 The sample is introduced into a

¹ Under the standardization procedure of the Society, this method is under the jurisdiction of the ASTM Committee D-2 on Petroleum Products and Lubricants. A list of members may be found in the ASTM Year Book.

Current edition accepted Sept. 13, 1968. Originally issued 1964. Replaces D 2267 - 67.

² Appears in this publication.

³ 1969 Book of ASTM Standards, Part 18.

gas chromatographic column containing a strongly polar liquid phase. The polar phase has very little affinity for saturated and olefinic hydrocarbons, while exhibiting a pronounced selectivity for aromatics. This selectivity results in the elution of all saturated and olefinic hydrocarbons in the products described above prior to the elution of benzene. Either a thermal conductivity or flame ionization detector may be used. Calibration is performed by using synthetic blends of the aromatic compounds charged at the same constant volume as is used to analyze the sample. *N*-undecane or *n*-dodecane is used as an internal standard. Typical retention times are shown in Table 1 and a typical chromatogram is shown in Fig. 1.

NOTE 2—Reference should be made to ASTM Recommended Practice E 260, General Gas Chromatography Procedures.⁴

NOTE 3: Caution—Light aromatic hydrocarbons are toxic. Special precautions should be taken when handling such materials to avoid inhaling the vapor. If some of the liquid is accidentally spilled on the skin, the affected part should be washed immediately with soap and water.

⁴ 1969 Book of ASTM Standards, Part 30.