Designation: D 1492 – 96 (Reapproved 2000)

Standard Test Method for Bromine Index of Aromatic Hydrocarbons by Coulometric Titration[1]

This standard is issued under the fixed designation D 1492; 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 amount of bromine-reactive material in aromatic hydrocarbons. It is usually applied to materials having bromine indexes below 500.

NOTE 1—Other test methods for determining bromine-reactive material are Test Methods D 1159, D 1491, D 2710, and D 5776.

1.2 This test method has been found applicable to aromatic hydrocarbons containing no more than trace amounts of olefins and that are substantially free from material lighter than isobutane and have a distillation end point under 288°C.

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 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 a specific hazard statement see Section 8.

2. Referenced Documents

2.1 *ASTM Standards:*

D 891 Test Methods for Specific Gravity, Apparent, of Liquid Industrial Chemicals[2]

D 1159 Test Method for Bromine Number of Petroleum Distillates and Commercial Aliphatic Olefins by Electrometric Titration[3]

D 1193 Specification for Reagent Water[4]

D 1491 Test Method for Bromine Index of Aromatic Hydrocarbons by Potentiometric Titration[5]

D 2710 Test Method for Bromine Index of Petroleum Hydrocarbons by Electrometric Titration[6]

D 3437 Practice for Sampling and Handling Liquid Cyclic Products[7]

D 3505 Test Method for Density or Relative Density of Pure Liquid Chemicals[7]

D 4052 Test Method for Density and Relative Density of Liquids by Digital Density Meter[6]

D 5776 Test Method for Bromine Index of Aromatic Hydrocarbons by Electrometric Titration[7]

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications[8]

2.2 *Other Document:*

OSHA Regulations, 29 CFR, paragraphs 1910.1000 and 1910.1200[9]

3. Terminology

3.1 *Definition:*

3.1.1 *bromine index*—the number of milligrams of bromine consumed by 100 g of sample under given conditions.

4. Summary of Test Method

4.1 The specimen is added to a solvent and titrated with electrolytically generated bromine at room temperature. The end point is determined by a dead-stop method. The time of titration is proportional to the bromine added to the specimen.

5. Significance and Use

5.1 This test method is useful for setting specification, for use as an internal quality control tool, and for use in development or research work on industrial aromatic hydrocarbons and related materials. This test method gives a broad indication of olefinic content. It will not differentiate between the types of aliphatic unsaturation.

6. Apparatus

6.1 *Amperometric-Coulometric Apparatus*, automatic, suitable for bromine index titration's with variable generator

[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 D16.0E on Instrumental Analysis.

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[2] *Annual Book of ASTM Standards*, Vol 15.05.

[3] *Annual Book of ASTM Standards*, Vol 05.01.

[4] *Annual Book of ASTM Standards*, Vol 11.01.

[5] Discontinued; see *1985 Annual Book of ASTM Standards*, Vol 06.03.

[6] *Annual Book of ASTM Standards*, Vol 05.02.

[7] *Annual Book of ASTM Standards*, Vol 06.04.

[8] *Annual Book of ASTM Standards*, Vol 14.02.

[9] Available from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.