



Designation: D5808 – 23

Standard Test Method for Determining Chloride in Aromatic Hydrocarbons and Related Chemicals by Microcoulometry¹

This standard is issued under the fixed designation D5808; 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 organic chloride in aromatic hydrocarbons, their derivatives, and related chemicals.

1.2 This test method is applicable to samples with chloride concentrations to 25 mg/kg. The limit of detection (LOD) is 0.2 mg/kg and the limit of quantitation (LOQ) is 0.7 mg/kg. With careful analytical technique or the measurement of replicates, or both, this method can be used to successfully analyze concentrations below the LOD.

NOTE 1—The maximum is the highest concentration from the interlaboratory study and the LOD and LOQ were calculated from Performance Testing Program (PTP) data. See Table 1.

1.3 This test method is preferred over Test Method D5194 for products, such as styrene, that are polymerized by the sodium biphenyl reagent.

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

1.5 Organic chloride values of samples containing inorganic chlorides will be biased high due to partial recovery of inorganic species during combustion. Interference from inorganic species can be reduced by water washing the sample before analysis. This does not apply to water soluble samples.

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

1.7 *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 statements, see 7.3 and Section 9.

1.8 *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

D1193 Specification for Reagent Water

D1555M Test Method for Calculation of Volume and Weight of Industrial Aromatic Hydrocarbons and Cyclohexane [Metric]

D3437 Practice for Sampling and Handling Liquid Cyclic Products

D5194 Test Method for Trace Chloride in Liquid Aromatic Hydrocarbons

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

2.2 *Other Document:*

OSHA Regulations, 29 CFR paragraphs 1910.1000 and 1910.1200³

3. Terminology

3.1 *Definitions:*

3.1.1 *dehydration tube, n*—chamber containing concentrated sulfuric acid that scrubs the effluent gases from combustion to remove water vapor.

3.1.2 *oxidative pyrolysis, n*—a process in which a sample is combusted in an oxygen-rich atmosphere at high temperature to break down the components of the sample into elemental oxides.

¹ This test method is under the jurisdiction of ASTM Committee D16 on Aromatic, Industrial, Specialty and Related Chemicals is the direct responsibility of Subcommittee D16.04 on Instrumental Analysis.

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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 Printing Office Superintendent of Documents, 732 N. Capitol St., NW, Mail Stop: SDE, Washington, DC 20401, <http://www.access.gpo.gov>.

*A Summary of Changes section appears at the end of this standard