



Designation: D8520/D8520M – 23

Standard Specification for Iodotrifluoromethane (CF₃I)¹

This standard is issued under the fixed designation D8520/D8520M; 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 specification covers requirements for iodotrifluoromethane (CF₃I, CAS No. 2314-97-8) as an agent for fire suppression. This specification is not intended for large-scale commercial usage.

1.2 This specification does not address fire-fighting equipment or hardware that uses CF₃I or the conditions of using such equipment (for example, portable extinguishers, fixed fire suppression systems, explosion inerting systems, and so forth).

1.3 This specification does not address the storage or transportation of CF₃I. The storage, handling, and transportation issues may be addressed in future ASTM specifications.

1.4 CF₃I has been found to be a cardiac sensitizer with a no observed adverse effect level (NOAEL) of 0.2 %. Therefore, sampling and other procedures should be performed only in areas with effective mechanical ventilation. Long-term exposures should be avoided pending the development of appropriate exposure standards.

1.5 *Units*—The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

1.6 The following precautionary statement pertains only to the test method portion of this specification: *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.*

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 Recom-*

mendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

2. Referenced Documents

2.1 *ASTM Standards*:²

D5632/D5632M Specification for Halon 1301, Bromotrifluoromethane (CF₃Br)

2.2 *Federal Standards*:³

49 CFR 178.42 Specification 3E seamless steel cylinders (DOT-3E1800)

MIL-STD 1188 Commercial Packaging of Supplies and Equipment

2.3 *ISO Standards*:⁴

ISO 5789 Chlorinated Hydrocarbons for Industrial Use—Determination of Non-Volatile Residue

3. Material Requirements

3.1 Iodotrifluoromethane (CF₃I) shall conform to the requirements prescribed in Table 1 when tested by the appropriate method(s) listed in the Test Methods section.

3.2 By agreement between the purchaser and the supplier, further analysis may be required and limits established for elements or compounds not specified in Table 1.

4. Sampling

4.1 *Vessel*:

4.1.1 **Warning**—A liquid sample of CF₃I should not be taken via typical National Exposure Research Laboratory (NERL) TO-15 Canisters. Traditional canisters such as Summa, SiloniteTM, and others typically used for TO-15 sampling are not rated for greater than 275 kPa [~39 PSI] and should not be used for taking liquid samples of CF₃I.

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 the U.S. Government Printing Office, Superintendent of Documents, 732 N. Capital St. NW, Washington, DC 20402-0001, www.access.gpo.gov

⁴ Available from the American National Standards Institute, 25 W. 43rd St., 4th Floor, New York, NY 10036.

⁵ SiloniteTM is a registered trademark of Entech Instruments.

¹ This specification is under the jurisdiction of ASTM Committee D26 on Halogenated Organic Solvents and Fire Extinguishing Agents and is the direct responsibility of Subcommittee D26.09 on Fire Extinguishing Agents.

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