



Standard Specification for Halon 1211, Bromochlorodifluoromethane (CF₂BrCl)¹

This standard is issued under the fixed designation D7673/D7673M; 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 the requirements for Halon 1211 as a fire-fighting medium.

1.2 This specification does not address the fire-fighting equipment or hardware that employs Halon 1211 or the conditions of employing such equipment (for example, handhelds, fixed installations, etc.).

1.3 This specification does not address the storage or transportation of Halon 1211. Storage, handling, and transportation issues may be addressed in future ASTM standards.

1.4 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.

1.5 The following safety hazards caveat pertains only to the test methods portion, Section 6, 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 and health practices and determine the applicability of regulatory limitations prior to use.* Specific hazards statements are given in Section 4.

2. Referenced Documents

2.1 ASTM Standards:²

D2108 Test Method for Color of Halogenated Organic Solvents and Their Admixtures (Platinum-Cobalt Scale)
D7815 Practice for Handling, Transportation, and Storage of Halon 1211, Bromochlorodifluoromethane (CF₂BrCl)

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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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.

2.2 AHRI Standards:³

2008 Appendix C for Analytical Procedures for AHRI Standard 700-2012

2.3 ISO Standards:⁴

ISO 3427 Gaseous Halogenated Hydrocarbons (Liquefied Gases) – Taking of a Sample

2.4 U.S. Governmental Standards:⁵

CFR Title 49, Part 172.101 Tables of Hazardous Materials and Special Provisions

CFR Title 49, Part 172 Subpart D Marking Requirements of Packaging for Transportation

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 **Halon 1211**—the halogenated hydrocarbon compound Bromochlorodifluoromethane used as a fire extinguishing medium.

3.1.1.1 **Discussion**—The halon terminology system provides a convenient means to reference halogenated hydrocarbon fire extinguishants. Halogenated hydrocarbons are acyclic saturated hydrocarbons in which one or more of the hydrogen atoms have been replaced by atoms from the halogen series (that is, fluorine, chlorine, bromine, and iodine). By definition, the first digit of the halon numbering system represents the number of carbon atoms in the compound molecule; the second digit, the number of fluorine atoms; the third digit, the number of chlorine atoms; the fourth digit, the number of bromine atoms; and the fifth digit, the number of iodine atoms. Trailing zeros are not expressed. Unaccounted for valence requirements are assumed to be hydrogen atoms.

$$\text{number of hydrogen atoms} = \quad (1)$$

$$[(((\text{number of carbon atoms} \times 2) + 2) - (\text{sum of halogen atoms}))]$$

For example, (2)

bromochlorodifluoromethane – CF₂BrCl – Halon 1211

³ Available from Air-Conditioning, Heating, and Refrigeration Institute (AHRI), 2111 Wilson Blvd., Suite 500, Arlington, VA 22201, <http://www.ari.org>.

⁴ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

⁵ 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>.