Designation: D8060 – 17

Standard Specification for 2-Bromo-3,3,3-Trifluoro-1-Propene ($CF_3CBr=CH_2$)[1]

This standard is issued under the fixed designation D8060; 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 2-Bromo-3,3,3-Trifluoro-1-Propene ("2-BTP") as a fire-fighting medium.

1.2 This specification does not address the fire-fighting equipment or hardware that employs 2-BTP 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 2-BTP. Storage, handling, and transportation issues are addressed in Practice D8061.

1.4 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.5 The following safety hazards caveat pertains only to the test methods portion, Section 6, of this specification:

1.5.1 *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.* Specific hazards statements are given in Section 4.

1.6 *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]

D2989 Test Method for Acidity-Alkalinity of Halogenated Organic Solvents and Their Admixtures

D6806 Practice for Analysis of Halogenated Organic Solvents and Their Admixtures by Gas Chromatography

D8061 Practice for Handling, Transportation, and Storage of 2-Bromo-3,3,3-Trifluoro-1-Propene ($CF_3CBr=CH_2$)

2.2 *ASHRAE Standard:*[3]

ASHRAE 34 Designation and Safety Classification of Refrigerants

2.3 *U.S. Government Standard:*[4]

CFR Title 49, Part 172, Subpart D U.S. Department of Transportation (DOT), Marking Requirements of Packaging for Transportation

2.4 *AHRI Standard:*[5]

2008 Appendix C for Analytical Procedures for AHRI Standard 700-2014

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *2-BTP, n*—2-Bromo-3,3,3-Trifluoro-1-Propene ($CF_3CBr=CH_2$); a compound used to inert, extinguish, or suppress a fire or explosion hazard.

3.1.1.1 *Discussion*—The terminology system for fluorine-containing compounds (described in detail in ASHRAE Standard 34) provides a convenient means to reference the structure of individual compounds. By definition for unsaturated compounds, the first digit of the numbering system represents the number of unsaturated bonds; the second digit represents one less than the number of carbon atoms in the compound molecule; the third digit, one more than the number of hydrogen atoms in the compound molecule; and the fourth digit, the number of fluorine atoms in the compound molecule. Unaccounted for valence requirements are assumed to be chlorine atoms. In those instances where bromine (Br) is present in place of part or all of the chlorine, an uppercase letter B is added after the designation for the parent compound. The number following the letter B represents the number of bromine atoms present. For example, the designation

[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.

Current edition approved Dec. 15, 2017. Published January 2018. Originally approved in 2016. Last previous edition approved in 2016 as D8060-16. DOI: 10.1520/D8060-17.

[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 American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE), 1791 Tullie Circle, NE, Atlanta, GA 30329, http://www.ashrae.org.

[4] Available from U.S. Government Publishing Office (GPO), 732 N. Capitol St., NW, Washington, DC 20401-0001, http://www.gpo.gov.

[5] Available from Air-Conditioning, Heating, & Refrigeration Institute, 2111 Wilson Blvd., Suite 500, Arlington, VA 22201, http://www.ahrinet.org.