



Designation: D7327 – 21

Standard Specification for HFC Blend B (CH₂FCF₃, CHF₂CF₃, and CO₂)¹

This standard is issued under the fixed designation D7327; 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 HFC Blend B as a fire-fighting medium.

1.2 This specification does not address the fire-fighting equipment or hardware that employs HFC Blend B 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 HFC Blend B. Storage, handling, and transportation issues are addressed in Practice [D7326](#).

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: *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

[D7326 Practice for Handling, Transportation, and Storage of HFC Blend B \(CH₂FCF₃, CHF₂CF₃, and CO₂\)](#)

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.

[D6806 Practice for Analysis of Halogenated Organic Solvents and Their Admixtures by Gas Chromatography](#)

2.2 *U.S. Government Standards:*³

[49 CFR Part 172 Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, Training Requirements and Security Plans](#)

[49 CFR Part 172.101 Purpose and Use of Hazardous Materials Table](#)

2.3 *AHRI Standard:*⁴

[2008 Appendix C for Analytical Procedures for AHRI Standard 700-2014](#)

2.4 *ASHRAE Standard:*⁵

[ASHRAE Standard 34 Designation and Safety Classification of Refrigerants](#)

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *HFC, n*—hydrofluorocarbon; a chemical compound in which the compound molecule is comprised exclusively of hydrogen, chlorine, fluorine and carbon atoms.

3.1.2 *HFC Blend B, n*—tertiary blend comprised of HFC-134a (1,1,1,2-tetrafluoroethane), HFC-125 (pentafluoroethane), and carbon dioxide (CO₂); a compound used to inert, extinguish, or suppress a fire or explosion hazard.

3.1.2.1 *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, the first digit of the numbering system represents one less than the number of carbon atoms in the compound molecule; the second digit, one more than the number of hydrogen atoms in the compound molecule; and the third digit, the number of fluorine atoms in the compound molecule. Unaccounted for valence requirements are assumed to be chlorine atoms. For example, the designation HFC-123 indicates two carbon atoms (1 + 1), two

³ Code of Federal Regulations (CFR) documents are available from U.S. Government Publishing Office (GPO), 732 N. Capitol St., NW, Washington, DC 20401, <http://www.gpo.gov>.

⁴ Available from Air-Conditioning, Heating, and Refrigeration Institute (AHRI), 2311 Wilson Blvd., Suite 400, Arlington, VA 22201, <http://www.ahrinet.org>.

⁵ Available from American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE), 1791 Tullie Circle, NE, Atlanta, GA 30329, <http://www.ashrae.org>.