



Standard Specification for HFC-236fa, 1,1,1,3,3,3–Hexafluoropropane, (CF₃CH₂CF₃)¹

This standard is issued under the fixed designation D 6541; 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 HFC-236fa as a fire-fighting medium.

1.2 This specification does not address the fire-fighting equipment or hardware that employs HFC-236fa or the conditions of employing such equipment (for example, hand-helds, fixed installations, and so forth).

1.3 This specification does not address the storage or transportation of HFC-236fa. Storage, handling, and transportation issues are addressed in Practice D 6427.

1.4 The following safety hazards caveat pertains to the test methods portion, Section 6.1, 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 hazard statements are given in Note 2.

2. Referenced Documents

2.1 ASTM Standards:

D 6427 Practice for Handling, Transportation, and Storage of HFC-236fa, 1,1,1,3,3,3–Hexafluoropropane (CF₃CH₂CF₃)²

2.2 ISO Standards:

ISO 3363 Fluorinated Hydrocarbons for Industrial Use—Determination of Acidity-Titration Method³

ISO 3427 Gaseous Halogenated Hydrocarbons (Liquefied Gases)—Taking a Sample³

ISO 5789 Fluorinated Hydrocarbons for Industrial Use—Determination of Nonvolatile Residue³

2.3 CGA Standards:

No. C-4 American National Standard Method of Marking Portable Compressed Gas Containers to Identify the

Material Contained⁴

No. P-1 Safe Handling of Compressed Gases in Containers⁴

2.4 U.S. Government Standards:

Code of Federal Regulations (CFR) Title 49, Part 172.101 Tables of Hazardous Materials and Special Provisions⁵

Code of Federal Regulations (CFR) Title 49, Part 173.302 and 173.304 Preparation and Packaging of Gases⁵

Code of Federal Regulations (CFR) Title 49, Part 172 Sub D Marking Requirements of Packaging for Transportation⁵

2.5 American Society of Refrigeration Engineers Standard: ASRE Standard 34, Designation of Refrigerants⁶

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *halogenated hydrocarbon* (see Note 1)—saturated hydrocarbons in which one or more of the hydrogen atoms have been replaced by atoms of the halogen series (fluorine, chlorine, bromine, and iodine). It is convention to prefix the number with an abbreviation of the compound:

CFC	=	chlorofluorocarbon
HCFC	=	hydrochlorofluorocarbon
HFC	=	hydrofluorocarbon
FC	=	fluorocarbon
R	=	refrigerant

NOTE 1—The halogenated compound coding terminology system provides a convenient means to reference halogenated hydrocarbons (see ASRE 34).

3.1.1.1 By definition, the right-most digit of the numbering system is the number of fluorine atoms.

3.1.1.2 The second digit from the right is the number of hydrogen atoms plus one (+1).

3.1.1.3 The third digit from the right is one less (-1) than the number of carbon atoms in the compound (when this number is zero, it is omitted from the number).

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 Halogenated Fire Extinguishants.

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² Annual Book of ASTM Standards, Vol 15.05.

³ Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.

⁴ Available from the Compressed Gas Association.

⁵ Available from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20036.

⁶ Available from American Society of Refrigeration Engineers, Refrigeration Engineering 65, 49 (1957).