



Designation: D 6268 – 98

Standard Practice for Handling, Transportation, and Storage of HFC-125, Pentafluoroethane (C₂HF₅)¹

This standard is issued under the fixed designation D 6268; 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 practice covers guidance and direction to suppliers, purchasers, and users in the handling, transportation, and storage of HFC-125, pentafluoroethane (C₂HF₅).

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are for information only.

1.3 *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.*

2. Referenced Documents

2.1 ASTM Standards:

D 6231 Specification for HFC-125, Pentafluoroethane (C₂HF₅)²

2.2 CGA Standards:³

C-1 Methods for Hydrostatic Testing of Compressed Gas Cylinders

C-4 American National Standard Method of Marking Portable Compressed Gas Containers to Identify the Material Contained

C-6 Standards for Visual Inspection of Steel Compressed Gas Cylinders

P-1 Safe Handling of Compressed Gases in Containers

SB-1 Hazards of Refilling Compressed Refrigerant (Halogenated Hydrocarbon) Gas Cylinders

2.3 U.S. Government Standards:⁴

Code of Federal Regulations (CFR) Title 49, Part 82.106

Code of Federal Regulations (CFR) Title 49, Part 173, U.S. Department of Transportation (DOT) Specifications, Shippers-General Requirements for Shipping and Packagings

Code of Federal Regulations (CFR) Title 49, Part 178, U.S. DOT Specifications for Packagings

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *containers*—storage vessel for HFC-125.

3.1.2 *cylinders*—containers for HFC-125.

3.1.3 *HFC-125*—pentafluoroethane, a compound used to inert or suppress a fire or explosion hazard.

3.1.4 *insulated*—placed in an isolated situation to protect and prevent the transfer of damage.

4. Significance and Use

4.1 This practice provides requirements for the handling, transportation, and storage of HFC-125 encountered in distribution through both commercial and military channels. It is intended to insure that HFC-125 is handled, transported, and stored in such a way its physical properties are not degraded. Transport may be by various means, such as, but not limited to, highway, rail, water, and air.

5. Practice

5.1 Personnel shall be trained in Title 49 CFR, Part 172, Subpart H, to ensure safe handling, loading, unloading, storage and transportation of material.

5.2 Handling:

5.2.1 Handling shall be in accordance with CGA P-1.

5.2.2 Personnel who handle or store, or both, cylinders of HFC-125 shall be trained properly to recognize and identify the characteristics of the product and the proper methods of safely handling full, partly full, and empty cylinders.

5.2.3 Facility personnel must be trained in applicable Title 49 CFR, Parts 173 and 178, and the CGA documents referenced in 2.2.

5.2.4 HFC-125 handling shall be in nonsmoking, heater-free, ventilated areas to preclude product accumulation. Provisions shall be made to ensure that service areas limit HFC-125 concentrations to not exceed 7.5 % for 1 min and 0.1 % for 8 h.

5.2.5 Cylinders shall not be overfilled. The maximum permitted filling density shall be 945 kg/m³ (59 lb/ft³). The liquid portion of the liquefied gases must not completely fill the

¹ This practice 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

³ Available from the Compressed Gas Association.

⁴ Available from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20036.