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Standard Practice for Handling, Transportation, and Storage of HFC-125, Pentafluoroethane (C_2HF_5)[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 (C_2HF_5).

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:*[2]

D 6231 ~~Specification for HFC-125, Pentafluoroethane (C~~Specification for HFC-125 (Pentafluoroethane, C_2HF_5)

D 6268 Practice for Handling, Transportation, and Storage of HFC-125, Pentafluoroethane (C_2HF_5)

2.2 *CGA Standards:*[3]

~~C-1Methods for Hydrostatic Testing of Compressed Gas Cylinders~~

~~C-4American 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

C-7 Guide to Preparation of Precautionary Labeling and Marking of Compressed Gas Containers

P-1 Safe Handling of Compressed Gases in Containers

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

~~2.3~~

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

SB-5 Safety Bulletin: Hazards of Reusing Disposable Refrigerant (Halogenated Hydrocarbon) Gas Cylinders

SB-18 Safety Bulletin: Use of Refrigerant (Halogenated Hydrocarbons) Recovery 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 82.106, Environmental Protection Agency, Warning Statement Requirements

CFR Title 49, Part 172, U.S. DOT Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements

CFR Title 49, Part 172.101, U.S. DOT Tables of Hazardous Materials and Special Provisions

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

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

CFR Title 49, Part 178, U.S. DOT Specification for Packagings

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[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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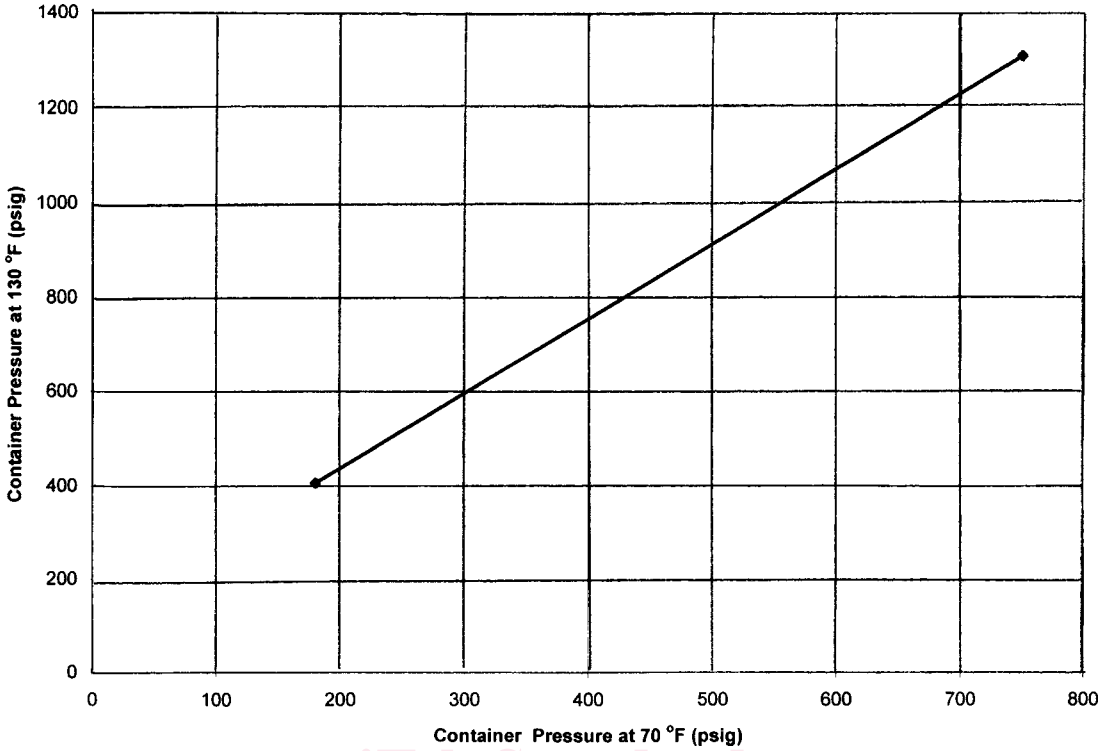
[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[3] Available from the Compressed Gas Association.

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



NOTE 1—Applicable to a container fill density of 57.5 lb/ft^3 only.

FIG. 1 Effect of Temperature on Storage Cylinder Pressure (HFC-125 Mixed with Nitrogen)

CFR Title 49, Part 180, U.S. DOT Continuing Qualification and Maintenance of Packagings

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

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

3.1.2 *cylinders*—containers of HFC-125.

3.1.3 *HFC-125*—pentafluoroethane, a compound used to inert, extinguish 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

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

5.1 To ensure safe handling, loading, unloading, storing, and transporting of material, personnel shall be trained in the CGA publications and Title 49 CFR regulations as listed in 2.2 and 2.3, respectively.

5.2 *Handling*:

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

~~5.2.2Personnel 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.~~

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

~~5.2.4HFC-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 10% for 1 min and 0.1% for 8 h.~~

~~5.2.5Cylinders shall not be overfilled. The maximum permitted filling density shall be 945 kg/m~~, Safe Handling of Compressed Gases in Containers.