



**BSR/ASHRAE Addendum a
to ANSI/ASHRAE Standard 147-2019**

Public Review Draft

**Proposed Addendum a to
Standard 147-2019, Reducing the Release
of Halogenated Refrigerants from
Refrigerating and Air-Conditioning
Equipment and Systems**

**First Public Review (June 2020)
(Draft shows Proposed Changes to Current Standard)**

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FOREWORD

This addendum makes additions to Section 9.2 Refrigerant Transfer, Transport, and Storage. These changes address the safe storage of flammable refrigerants and adds NFPA 55 and IFC-ICC Chapter 58 to the normative references.

[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (for additions) and ~~striketrough~~ (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the current standard are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed changes.]

Addendum a to Standard 147-2019

Revise Section 9.2 Refrigerant Transfer, Transport, and Storage to include the addition as shown below.

9.2.3.1 Storage of Flammable Refrigerants. Storage of Class 2L, 2, and 3 refrigerants shall comply with NFPA 55, *Compressed Gases and Cryogenic Fluids Code*, and IFC Chapter 58, *Flammable Gases and Flammable Cryogenic Fluids*.

Revise Normative References to include the additions as shown below.

11. NORMATIVE REFERENCES

References required for compliance with this standard are listed below. Informative references are listed in Annex C.

1. UL. 2015. UL 1995, *Heating and Cooling Equipment*, 5th Edition. Northbrook, IL: Underwriters Laboratories.
2. ASHRAE. 2019. ANSI/ASHRAE Standard 15, *Safety Standard for Refrigeration Systems*. Atlanta: ASHRAE.
3. UL. 2011. UL60335-2-40, *Household and Similar Electrical Appliances—Safety—Part 2- 40: Particular Requirements for Electrical Heat Pumps, Air-Conditioners and Dehumidifiers*. Northbrook, IL: Underwriters Laboratories.
4. UL 2017. UL60335-2-89, *Household and Similar Electrical Appliances—Safety—Part 2- 89: Particular Requirements for Commercial Refrigerating Appliances with an Incorporated or Remote Refrigerant Unit or Compressor*. Northbrook, IL: Underwriters Laboratories.
5. AHRI. 2014. AHRI 580, *Performance Rating of Non-Condensable Gas Purge Equipment for Use with Low Pressure Centrifugal Liquid Chillers*. Arlington, VA: Air-Conditioning, Heating and Refrigeration Institute.

6. ASTM. 2015. ASTM D642, *Standard Test Method for Determining Compressive Resistance of Shipping Containers, Components, and Unit Loads*. West Conshohocken, PA: ASTM International.
7. ASTM. 2019. ASTM D4577, *Standard Test Method for Compression Resistance of a Container Under Constant Load*. West Conshohocken, PA: ASTM International.
8. ASTM. 2015. ASTM D999, *Standard Test Methods for Vibration Testing of Shipping Containers*. West Conshohocken, PA: ASTM International.
9. ASTM. 2017. ASTM D4728, *Standard Test Method for Random Vibration Testing of Shipping Containers*. West Conshohocken, PA: ASTM International
10. ASTM D880-1992 (*R 2015*), *Standard Test Method for Impact Testing for Shipping Containers and Systems*. West Conshohocken, Pa.
10. ASTM. 2019. ASTM D6055, *Standard Test Methods for Mechanical Handling of Unitized Loads and Large Shipping Cases and Crates*. West Conshohocken, PA: ASTM International.
11. ASTM. 2014. ASTM D6179, *Standard Test Methods for Rough Handling of Unitized Loads and Large Shipping Cases and Crates*. West Conshohocken, PA: ASTM International.
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13. ASTM. 2019. ASTM D5276, *Standard Test Method for Drop Test of Loaded Containers by Free Fall*. West Conshohocken, PA: ASTM International.
14. ASHRAE. 2019. ANSI/ASHRAE Standard 34, *Designation and Safety Classification of Refrigerants*. Atlanta: ASHRAE.
15. GPO. 2004. *U.S. Code of Federal Regulations*. Title 40, Part 82, Subpart F, "Protection of stratospheric ozone." Washington, DC: U.S. Government Publishing Office.
16. ACCA. 2019. ANSI/ACCA 4QM, *Maintenance of Residential HVAC Systems*. Washington, DC: Air Conditioning Contractors of America.
17. ASHRAE. 2018. ANSI/ASHRAE/ACCA Standard 180, *Standard Practice for Inspection and Maintenance of Commercial Building HVAC Systems*. Atlanta: ASHRAE.
18. GPO. n.d. *U.S. Code of Federal Regulations*, Title 49, Part 178, Subpart C, "Specifications for packagings." Washington, DC: U.S. Government Publishing Office.
19. AHRI. 2015. AHRI Guideline K, *Containers for Recovered Non-Flammable Fluorocarbon Refrigerants*. Arlington, VA: Air-Conditioning, Heating, and Refrigeration Institute.
20. NFPA 55. *Compressed Gases and Cryogenic Fluids Code*. Quincy, MA: National Fire Protection Association.
21. IFC. 2018. IFC-ICC Chapter 58 *Flammable Gases and Flammable Cryogenic Fluids*. Washington, DC: International Code Council.