



**BSR/ASHRAE Addendum ae
to ANSI/ASHRAE Standard 34-2022**

Public Review Draft

Proposed Addendum ae to Standard 34-2022, Designation and Safety Classification of Refrigerants

**First Public Review (April 2024)
(Draft shows Proposed Changes to Current Standard)**

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(This foreword is not part of this standard. It is merely informative and does not contain requirements necessary for conformance to the standard. It has not been processed according to the ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)

FOREWORD

This proposed addendum adds ethers and cyclobutene to the list of substances which can be explicitly determined from the refrigerant numbers and corrects reference to the location of fractionation analysis under conditions of leakage in Normative Appendix B.

Note: 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 ae to Standard 34-2022

Modify Section 4 as follows. The remainder of Section 4 remains unchanged.

4. NUMBER OF REFRIGERANTS

[...]

- 4.1 The identifying numbers assigned to the hydrocarbons, ~~and halocarbons,~~ and ethers of the methane, ethane, ethene, propane, propene, butane, butene, ~~and cyclobutane,~~ and cyclobutene series are such that the chemical composition of the compounds can be explicitly determined from the refrigerant numbers, and vice versa, without ambiguity. The molecular structure can be similarly determined for the methane, ethane, ethene, and most of the propane and propene, butane, butene, and cyclobutene series from only the identification number.

[...]

Modify Section B2.1 as follows. The remainder of Section B2.1 remains unchanged.

NORMATIVE APPENDIX B

DETAILS OF TESTING—FLAMMABILITY

[...]

- B2.1** The applicant shall report results of a fractionation analysis made to determine vapor-phase and liquidphase compositions of refrigerant blends under conditions of leakage (see Section B2.34) ~~and successive charge/recharge conditions (see Section B2.4).~~ The analysis shall be validated through experimentation. A computer or mathematical model may be used to identify the WCFF. If a computer or mathematical model is used, then the applicant shall identify the model used and shall submit experimental data that verify the accuracy of the model at the conditions that predict the WCFF.