



# ADDENDA

**ANSI/ASHRAE Addendum ag to  
ANSI/ASHRAE Standard 34-2022**

# Designation and Safety Classification of Refrigerants

Approved by ASHRAE and the American National Standards Institute on August 30, 2024.

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## **FOREWORD**

*Addendum ag adds the zeotropic refrigerant blend R-493A to Tables 4-2 and D-2.*

**Informative Note:** In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and ~~strike through~~ (for deletions) unless the instructions specifically mention some other means of indicating the changes.

## **Addendum ag to Standard 34-2022**

*Modify Tables 4-2 and D-2 as shown.*

**Table 4-2 Data and Safety Classifications for Refrigerant Blends**

| Refrigerant Number | Composition (Mass%)<br>(Composition Tolerances)                   | OEL <sup>h</sup> ,<br>ppm v/v | Safety Group | RCL <sup>a</sup> |                         |                  | LFL <sup>j</sup> |                         |                  | Highly Toxic or Toxic <sup>f</sup><br>Under Code Classification |
|--------------------|---|-------------------------------|--------------|------------------|-------------------------|------------------|------------------|-------------------------|------------------|---|
|                    |   |                               |              | ppm v/v          | lb/1000 ft <sup>3</sup> | g/m <sup>3</sup> | ppm v/v          | lb/1000 ft <sup>3</sup> | g/m <sup>3</sup> |   |
| [...]              |   |                               |              |                  |                         |                  |                  |                         |                  |   |
| <u>493A</u>        | <u>R-290/600a/600 (9.4/30.9 /59.7)</u><br><u>(±0.8/±2.0/±2.0)</u> | <u>1000</u>                   | <u>A3</u>    | <u>1700</u>      | <u>0.24</u>             | <u>3.9</u>       | <u>15,000</u>    | <u>2.2</u>              | <u>35</u>        | <u>Neither</u>  |
| [...]              |   |                               |              |                  |                         |                  |                  |                         |                  |   |

**Table D-2 Data Classifications for Refrigerant Blends**

| Refrigerant Number | Composition (mass %) <sup>a</sup>      | Average Relative Molar Mass | Bubble Point, °F | Dew Point, °F | Bubble Point, °C | Dew Point, °C |
|--------------------|--|-----------------------------|------------------|---------------|------------------|---------------|
| [...]              |  |                             |                  |               |                  |               |
| <u>493A</u>        | <u>R-290/600a/600 (9.4/30.9 /59.7)</u> | <u>56.44</u>                | <u>8.8</u>       | <u>-20.5</u>  | <u>-12.9</u>     | <u>-6.4</u>   |
| [...]              |  |                             |                  |               |                  |               |

## **POLICY STATEMENT DEFINING ASHRAE'S CONCERN FOR THE ENVIRONMENTAL IMPACT OF ITS ACTIVITIES**

ASHRAE is concerned with the impact of its members' activities on both the indoor and outdoor environment. ASHRAE's members will strive to minimize any possible deleterious effect on the indoor and outdoor environment of the systems and components in their responsibility while maximizing the beneficial effects these systems provide, consistent with accepted Standards and the practical state of the art.

ASHRAE's short-range goal is to ensure that the systems and components within its scope do not impact the indoor and outdoor environment to a greater extent than specified by the Standards and Guidelines as established by itself and other responsible bodies.

As an ongoing goal, ASHRAE will, through its Standards Committee and extensive Technical Committee structure, continue to generate up-to-date Standards and Guidelines where appropriate and adopt, recommend, and promote those new and revised Standards developed by other responsible organizations.

Through its *Handbook*, appropriate chapters will contain up-to-date Standards and design considerations as the material is systematically revised.

ASHRAE will take the lead with respect to dissemination of environmental information of its primary interest and will seek out and disseminate information from other responsible organizations that is pertinent, as guides to updating Standards and Guidelines.

The effects of the design and selection of equipment and systems will be considered within the scope of the system's intended use and expected misuse. The disposal of hazardous materials, if any, will also be considered.

ASHRAE's primary concern for environmental impact will be at the site where equipment within ASHRAE's scope operates. However, energy source selection and the possible environmental impact due to the energy source and energy transportation will be considered where possible. Recommendations concerning energy source selection should be made by its members.

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As an industry leader in research, standards writing, publishing, certification, and continuing education, ASHRAE and its members are dedicated to promoting a healthy and sustainable built environment for all, through strategic partnerships with organizations in the HVAC&R community and across related industries.

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