



ADDENDA

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

Designation and Safety Classification of Refrigerants

Approved by ASHRAE and the American National Standards Institute on January 31, 2023.

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Cognizant TC: 3.1, Refrigerants and Secondary Coolants

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FOREWORD

Addendum e adds the zeotropic refrigerant blend R-478A to Tables 4-2 and D-2.

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

Addendum e 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 = 478A

Composition (Mass %) = R-744/32/125/134a/152a/1234ze(E)/227ea (7.0/26.0/15.0/15.0/3.0/30.0/4.0)

Composition tolerances = $\pm 0.5/\pm 1.0/\pm 1.0/\pm 1.0/\pm 0.2/\pm 1.0/\pm 0.5$

OEL = 1100 ppm v/v

Safety Group = A2L

RCL = 24,000 ppm v/v; 4.8 lb/1000 ft³; 77 g/m³

LFL = 95,000^k ppm v/v; 17.1^k lb/1000 ft³; 270^k g/m³

BV = <4 cm/s

Highly Toxic or Toxic Under Code Classification = Neither

Table D-2 Data Classifications for Refrigerant Blends

Refrigerant Number = 478A

Composition (Mass %) = R-744/32/125/134a/152a/1234ze(E)/227ea (7.0/26.0/15.0/15.0/3.0/30.0/4.0)

Average Relative Molar Mass = 79.2 g/mol

Bubble Point (°F) = -73.1

Dew Point (°F) = -35.3

Bubble Point (°C) = -58.4

Dew Point (°C) = -37.4

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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.

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