Designation and Safety Classification of Refrigerants

Approved by ASHRAE Standards Committee on June 26, 2024, and by the American National Standards Institute on July 26, 2024.

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FOREWORD

Addendum ad revises Table E-1 to use lethality (acute toxicity) value (50% of lethality ATEL) as the basis for the R-1270 anesthetic value.

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

Modify Table E-1 as follows. The remainder of Table E-1 remains unchanged.
(This appendix is not part of this standard. It is merely informative and does not contain requirements not 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.)

INFORMATIVE APPENDIX E
TOXICITY AND FLAMMABILITY DATA FOR SINGLE-COMPOND REFRIGERANTS

Table E-1 Toxicity Table for Standard 34—ATEL, ODL, FCL, and RCL Values for Single-Compound Refrigerants\(^a\) (ppm v/v)

<table>
<thead>
<tr>
<th>Refrigerant (b)</th>
<th>Chemical Name</th>
<th>Cardiac Sensitization</th>
<th>Anesthesia</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>( LC_{50} )^b,c</td>
<td>( LOEL )^d</td>
</tr>
<tr>
<td>----------------</td>
<td>---------------</td>
<td>-----------------------</td>
<td>------------</td>
</tr>
<tr>
<td>1270 propene (propylene)</td>
<td>&gt;490,000(^f)</td>
<td>ND</td>
<td>ND</td>
</tr>
</tbody>
</table>

ND: None determined or not adequately defined according to criteria of this standard.
NA: Not applicable.

Informative Note: The data shown in this table are rounded to three significant digits to avoid suggestion of artificial precision, but actual calculations used the data as published or converted to avoid propagation of errors in calculations, especially for blends. The ATEL and RCL concentrations are rounded to two significant figures.
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.

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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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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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