



May 2024

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## FACT SHEET

# Final Rule 26 – Protection of Stratospheric Ozone: Listing of Substitutes under the Significant New Alternatives Policy Program in Commercial and Industrial Refrigeration

### Significant New Alternatives Policy (SNAP) Program

Under section 612 of the Clean Air Act (CAA), EPA reviews substitutes in a comparative risk framework. EPA lists these substitutes as acceptable, acceptable subject to use conditions, acceptable subject to narrowed use limits, or unacceptable (prohibited) for specific uses. Section 612 requires EPA to list as acceptable those substitutes that do not present a significantly greater risk to human health and the environment as compared with other substitutes that are currently or potentially available.

As part of the evaluation of overall risk to human health and the environment, EPA considers many criteria, including the flammability and toxicity of a substitute, worker and consumer exposure, and environmental risks, such as impacts on ecosystems, local air quality, and the global atmosphere.

### Today's Action

Under this final rule, 10 refrigerants are listed as acceptable, subject to use conditions, in the Refrigeration & Air Conditioning sector. Consistent with CAA section 612 as it has historically been interpreted under the SNAP Program, EPA is issuing these listings and modifications based on evaluation of the substitutes addressed in this action using the SNAP criteria for review and considering other available and potentially available substitutes. EPA is finalizing use conditions that incorporate by reference the Underwriters Laboratory (UL) Standard 60335-2-89, 2<sup>nd</sup> Edition, and the 2022 edition of the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) 15 standard.

### Final Rule

#### *What is finalized in the Rule?*

- Lists 10 refrigerants as acceptable, subject to use conditions
- Modifies use conditions for R-290 (propane)
- Incorporates by reference latest version of UL 60335-2-89, ASHRAE 15-2022, and ASHRAE 34-2022
- Exempts R-290 in refrigerated food processing and dispensing equipment from the CAA section 608 venting prohibition

#### *Which industrial sectors are included?*

- Refrigeration & Air Conditioning

#### *Who is affected?*

- Chemical producers
- Equipment manufacturers
- Commercial and consumer end users of equipment and products using refrigerants
- Service technicians

### AIM Act

The United States is phasing down hydrofluorocarbons (HFCs) consistent with the American Innovation and Manufacturing (AIM) Act’s schedule and has recently finalized restrictions on the use of certain higher-global warming potential (GWP) HFCs in over 40 types of products and equipment in the foams, aerosols, and refrigeration, air conditioning, and heat pumps sectors (October 24, 2023, 88 FR 73098). These final listings support the transitions from HFCs.

This action also modifies use conditions in existing listings for the refrigeration and air conditioning sector. EPA previously found the refrigerant R-290 (propane) acceptable, subject to use conditions, in new self-contained commercial ice machines and stand-alone equipment in SNAP Rules 21 (81 FR 86779; December 1, 2016) and 17 (76 FR 78837; December 20, 2011), respectively. This final action modifies those use conditions to incorporate by reference the ASHRAE 15-2022 and UL Standard 60335-2-89, 2<sup>nd</sup> Edition, in place of UL Standards 563 and 471, respectively, and would apply to equipment manufactured after the effective date of this final rule. In addition to newly listing propane as acceptable, subject to use conditions, as a refrigerant in new refrigerated food processing and dispensing equipment, EPA is also exempting propane in that end-use from the venting prohibition under CAA section 608.

## Summary of Final Rule

### ACCEPTABLE ALTERNATIVES, WITH USE CONDITIONS

End-Use	Substitutes	Conditions <sup>1</sup>
<b>Refrigeration &amp; Air Conditioning</b>		
Commercial Ice Machines (New)	HFC-32, <sup>2</sup> HFO-1234yf, R-454A, <sup>2</sup> R-454B, <sup>2</sup> R-454C, R-455A, R-457A, R-516A	Acceptable Subject to Use Conditions
Industrial Process Refrigeration (New)	HFC-32, <sup>3</sup> HFO-1234yf, HFO-1234ze(E), R-454A, <sup>4</sup> R-454B, <sup>3</sup> R-454C, R-455A, R-457A, R-516A	Acceptable Subject to Use Conditions
Cold Storage Warehouses (New)	HFO-1234yf, HFO-1234ze(E), R-454A, <sup>5</sup> R-454C, R-455A, R-457A, R-516A	Acceptable Subject to Use Conditions
Ice Skating Rinks (New)	HFO-1234yf, HFO-1234ze(E), R-454C, R-455A, R-457A, R-516A	Acceptable Subject to Use Conditions
Retail Food Refrigeration (New)—Refrigerated Food Processing and Dispensing Equipment and Stand-alone Units	HFO-1234yf, HFO-1234ze(E), R-454C, R-455A, R-457A, R-516A	Acceptable Subject to Use Conditions
Retail Food Refrigeration (New)—Refrigerated Food Processing and Dispensing Equipment	R-290 (propane)	Acceptable Subject to Use Conditions
Retail Food Refrigeration (New)—Supermarket Systems and Remote Condensing Units	HFO-1234yf, HFO-1234ze(E), R-454A, <sup>5</sup> R-454C, R-455A, R-457A, R-516A	Acceptable Subject to Use Conditions

<sup>1</sup> For specific use conditions for substitutes listed as Acceptable Subject to Use Conditions, consult the final rule.

<sup>2</sup> HFC-32, R-454A, and R-454B may only be used in self-contained Commercial Ice Machines with batch-type ice harvest rates greater than 1,000 lb of ice per 24 hours, in self-contained Commercial Ice Machines with continuous-type ice harvest rates greater than 1,200 lb of ice per 24 hours, or in remote Commercial Ice Machines.

<sup>3</sup> HFC-32 and R-454A may only be used in Industrial Process Refrigeration chillers and direct expansion Industrial Process Refrigeration equipment with exiting fluid refrigerant temperatures entering the evaporator less than or equal to -30° C.

<sup>4</sup> R-454A may only be used in chillers for Industrial Process Refrigeration, or in direct expansion Industrial Process Refrigeration equipment with the refrigerant temperature entering the evaporator less than or equal to -30° C, in equipment with a refrigerant charge capacity less than 200 pounds and with the refrigerant temperature entering the evaporator higher than -30° C, and in the high-temperature side of a cascade system with the refrigerant temperature entering the evaporator higher than -30° C.

<sup>5</sup> R-454A may only be used in equipment with a refrigerant charge capacity less than 200 pounds, or in the high-temperature side of a cascade system for Cold Storage Warehouses and for Retail Food Refrigeration—Supermarket Systems and Remote Condensing Units.

## ACCEPTABLE ALTERNATIVES, WITH MODIFIED USE CONDITIONS

End-Use	Substitutes	Conditions <sup>1</sup>
<b>Refrigeration &amp; Air Conditioning</b>		
Commercial Ice Machines (New)—Self-contained Units	R-290	Acceptable only for use in new equipment <sup>2</sup> specifically designed for the refrigerant and must be consistent with ASHRAE 15-2022 and UL Standard 60335-2-89, 2 <sup>nd</sup> Edition, including testing, charge sizes, ventilation, usage space requirements, and certain hazard warnings and markings
Retail Food Refrigeration (New)—Stand-alone Units		

<sup>1</sup> For specific use conditions, consult the final rule.

<sup>2</sup> Applies to new equipment manufactured after the effective date of this final rule. Consult the final rule for details on when UL 563 or UL 471 may still be followed and when ASHRAE 15 and UL 60335-2-89 must be followed.