

**WAC 173-443-040 List of prohibited substances.** (1) Table 1 in this section lists prohibited substances in new products and equipment, as defined in WAC 173-443-030, and the effective date of the prohibition, unless an exemption is provided for in WAC 173-443-050.

**TABLE 1. Prohibited Substances for New Products and Equipment**

<b>End-Use Category: Aerosol Propellants</b>		
<b>End-Use</b>	<b>Prohibited Substances</b>	<b>Effective Date</b>
Aerosol propellants	HFC-125, HFC-134a, HFC-227ea and blends of HFC-227ea and HFC-134a	January 1, 2020
<b>End-Use Category: Air Conditioning</b>		
<b>End-Use</b>	<b>Prohibited Substances</b>	<b>Effective Date</b>
Centrifugal chillers - Cooling only (New)	FOR12A, FOR12B, HFC-134a, HFC-227ea, HFC-236fa, HFC-245fa, R-125/134a/600a (28.1/70/1.9), R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-410A, R-410B, R-417A, R-421A, R-422B, R-422C, R-422D, R-423A, R-424A, R-434A, R-438A, R-507A, RS-44 (2003 composition), THR-03	January 1, 2024
Positive displacement chillers - Cooling only (New)	FOR12A, FOR12B, HFC-134a, HFC-227ea, KDD6, R-125/134a/600a (28.1/70/1.9), R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-410A, R-410B, R-417A, R-421A, R-422B, R-422C, R-422D, R-424A, R-434A, R-437A, R-438A, R-507A, RS-44 (2003 composition), SP34E, THR-03	January 1, 2024
Centrifugal chillers - Heating and heating and cooling (New)	FOR12A, FOR12B, HFC-134a, HFC-227ea, HFC-236fa, HFC-245fa, R-125/134a/600a (28.1/70/1.9), R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-410A, R-410B, R-417A, R-421A, R-422B, R-422C, R-422D, R-423A, R-424A, R-434A, R-438A, R-507A, RS-44 (2003 composition), THR-03	January 1, 2025
Positive displacement chillers - Heating and heating and cooling (New)	FOR12A, FOR12B, HFC-134a, HFC-227ea, KDD6, R-125/134a/600a (28.1/70/1.9), R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-410A, R-410B, R-417A, R-421A, R-422B, R-422C, R-422D, R-424A, R-434A, R-437A, R-438A, R-507A, RS-44 (2003 composition), SP34E, THR-03	January 1, 2025
<b>End-Use Category: Refrigeration</b>		
<b>End-Use</b>	<b>Prohibited Substances</b>	<b>Effective Date</b>
Cold storage warehouses (New)	HFC-227ea, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407A, R-407B, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-423A, R-424A, R-428A, R-434A, R-438A, R-507A, RS-44 (2003 composition)	January 1, 2023
Household refrigerators and freezers (New)	FOR12A, FOR12B, HFC-134a, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), RS-44 (2003 formulation), SP34E, THR-03	January 1, 2022
Household refrigerators and freezers - Compact (New)	FOR12A, FOR12B, HFC-134a, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), RS-44 (2003 formulation), SP34E, THR-03	January 1, 2021

<b>End-Use Category: Refrigeration</b>		
<b>End-Use</b>	<b>Prohibited Substances</b>	<b>Effective Date</b>
Household refrigerators and freezers - Built-in appliances (New)	FOR12A, FOR12B, HFC-134a, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), RS-44 (2003 formulation), SP34E, THR-03	January 1, 2023
Supermarket systems (Retrofit)	R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R-428A, R-434A, R-507A	January 1, 2020
Supermarket systems (New)	HFC-227ea, R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R-428A, R-434A, R-507A	January 1, 2020
Remote condensing units, except for automatic commercial ice machines (Retrofit)	R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R-428A, R-434A, R-507A	January 1, 2020
Remote condensing units, except for automatic commercial ice machines (New)	HFC-227ea, R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R-428A, R-434A, R-507A	January 1, 2020
Automatic commercial ice machines - Remote condensing units (New and retrofit)	R-404A, R-507, R-507A, R-428A, R-422C, R-434A, R-421B, R-408A, R-422A, R-407B, R-402A, R-422D, R-421A, R-125/R-290/R-134a/R-600a (55.0/1.0/42.5/1.5), R-422B, R-424A, R-402B, GHG-X5, R-417A, R-438A, and R-410B	January 1, 2025
Stand-alone units, except for automatic commercial ice machines (Retrofit)	R-404A, R-507A	January 1, 2020
Stand-alone medium-temperature units (New)	FOR12A, FOR12B, HFC-134a, HFC-227ea, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407A, R-407B, R-407C, R-407F, R-410A, R-410B, R-417A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), RS-44 (2003 formulation), SP34E, THR-03	January 1, 2020
Stand-alone low-temperature units (New)	HFC-227ea, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407A, R-407B, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-44 (2003 formulation)	January 1, 2020
Automatic commercial ice machines - Stand-alone units (New and retrofit)	R-404A, R-507, R-507A, R-428A, R-422C, R-434A, R-421B, R-408A, R-422A, R-407B, R-402A, R-422D, R-421A, R-125/R-290/R-134a/R-600a (55.0/1.0/42.5/1.5), R-422B, R-424A, R-402B, GHG-X5, R-417A, R-438A, R-410B, R-407A, R-410A, R-442A, R-417C, R-407F, R-437A, R-407C, RS-24 (2004 formulation), and HFC-134a	January 1, 2025
Refrigerated food processing and dispensing equipment (New)	HFC-227ea, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407A, R-407B, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-44 (2003 formulation)	January 1, 2021
Vending machines (Retrofit)	R-404A, R-507A	January 1, 2022
Vending machines (New)	FOR12A, FOR12B, HFC-134a, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-410A, R-410B, R-417A, R-421A, R-422B, R-422C, R-422D, R-426A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), SP34E	January 1, 2022

<b>End-Use Category: Foams</b>		
<b>End-Use</b>	<b>Prohibited Substances</b>	<b>Effective Date</b>
Rigid polyurethane and polyisocyanurate laminated boardstock	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof	January 1, 2020
Flexible polyurethane	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof	January 1, 2020
Integral skin polyurethane	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel Z-6	January 1, 2020
Polystyrene extruded sheet	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel Z-6	January 1, 2020
Phenolic insulation board and bunstock	HFC-143a, HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof	January 1, 2020
Rigid polyurethane slabstock and other	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel Z-6	January 1, 2020
Rigid polyurethane appliance foam	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel Z-6	January 1, 2020
Rigid polyurethane commercial refrigeration and sandwich panels	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel Z-6	January 1, 2020
Polyolefin	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel Z-6	January 1, 2020
Rigid polyurethane marine flotation foam	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel Z-6	January 1, 2020
Polystyrene extruded boardstock and billet (XPS)	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel B, Formacel Z-6	January 1, 2021
Rigid polyurethane high-pressure two-component spray foam	HFC-134a, HFC-245fa, and blends thereof; blends of HFC-365mfc with at least 4 percent HFC-245fa, and commercial blends of HFC-365mfc with 7 to 13 percent HFC-227ea and the remainder HFC-365mfc; Formacel TI	January 1, 2020
Rigid polyurethane low-pressure two-component spray foam	HFC-134a, HFC-245fa, and blends thereof; blends of HFC-365mfc with at least 4 percent HFC-245fa, and commercial blends of HFC-365mfc with 7 to 13 percent HFC-227ea and the remainder HFC-365mfc; Formacel TI	January 1, 2021
Rigid polyurethane one-component foam sealants	HFC-134a, HFC-245fa, and blends thereof; blends of HFC-365mfc with at least 4 percent HFC-245fa, and commercial blends of HFC-365mfc with 7 to 13 percent HFC-227ea and the remainder HFC-365mfc; Formacel TI	January 1, 2020

(2) Table 2 in this section lists prohibited substances in new or retrofit refrigeration equipment, as defined in WAC 173-443-030, with a full charge of more than 50 pounds and the effective date of the prohibition, unless an exemption is provided for in WAC 173-443-050.

**TABLE 2. Prohibited Substances for New or Retrofit Refrigeration Equipment**

<b>End-Use</b>	<b>Criteria</b>	<b>Prohibited Substances</b>	<b>Effective Date</b>
Commercial refrigeration: Retail food refrigeration including chillers (New)	New refrigeration equipment with a full charge of more than 50 pounds of refrigerant	Refrigerants with a GWP greater than 150	January 1, 2025
Commercial refrigeration: Retail food refrigeration including chillers (Retrofit)	Retrofit refrigeration equipment with a full charge of more than 50 pounds of refrigerant	Refrigerants with a GWP greater than 150	January 1, 2029
Commercial refrigeration: Cold storage warehouses (New)	New refrigeration equipment with a full charge of more than 50 pounds of refrigerant	Refrigerants with a GWP greater than 150	January 1, 2025

<b>End-Use</b>	<b>Criteria</b>	<b>Prohibited Substances</b>	<b>Effective Date</b>
Commercial refrigeration: Cold storage warehouses (Retrofit)	Retrofit refrigeration equipment with a full charge of more than 50 pounds of refrigerant	Refrigerants with a GWP greater than 150	January 1, 2029
Industrial process refrigeration excluding chillers (New)	New refrigeration equipment with a full charge of more than 50 pounds of refrigerant	Refrigerants with a GWP greater than 150	January 1, 2025
Industrial process refrigeration excluding chillers (Retrofit)	Retrofit refrigeration equipment with a full charge of more than 50 pounds of refrigerant	Refrigerants with a GWP greater than 150	January 1, 2029
Chillers used for industrial process refrigeration (New)	New refrigeration equipment with a full charge of more than 50 pounds of refrigerant	Refrigerants with a GWP greater than 750	January 1, 2025
Chillers used for industrial process refrigeration (Retrofit)	Retrofit refrigeration equipment with a full charge of more than 50 pounds of refrigerant	Refrigerants with a GWP greater than 750	January 1, 2029
Ice rinks including chillers (New)	New refrigeration equipment with a full charge of more than 50 pounds of refrigerant	Refrigerants with a GWP greater than 150	January 1, 2024
Ice rinks including chillers (Retrofit)	Retrofit refrigeration equipment with a full charge of more than 50 pounds of refrigerant	Refrigerants with a GWP greater than 750	January 1, 2024

(3) Table 3 in this section lists prohibited substances in new or retrofit air conditioning equipment, as defined in WAC 173-443-030, and the effective date of the prohibition, unless an exemption is provided for in WAC 173-443-050.

**TABLE 3. Prohibited Substances for New or Retrofit Air Conditioning Equipment**

<b>End-Use</b>	<b>Criteria</b>	<b>Prohibited Substances</b>	<b>Effective Date</b>
Room air conditioners and residential dehumidifiers (New)	New air conditioning equipment	Refrigerants with a GWP greater than 750	January 1, 2024
Room air conditioners and residential dehumidifiers (Retrofit)	Retrofit air conditioning equipment	Refrigerants with a GWP greater than 750	January 1, 2029
Other types of air conditioning equipment used in residential and nonresidential applications (New)	New air conditioning equipment	Refrigerants with a GWP greater than 750	January 1, 2026, if UL 60335-2-40 Edition 4 is adopted by the Washington state building code council by December 31, 2023; otherwise 24 months following adoption of the updated code
Other types of air conditioning equipment used in residential and nonresidential applications (Retrofit)	Retrofit air conditioning equipment	Refrigerants with a GWP greater than 750	January 1, 2029
Variable refrigerant flow (VRF) or volume system (New)	New air conditioning equipment	Refrigerants with a GWP greater than 750	January 1, 2026

End-Use	Criteria	Prohibited Substances	Effective Date
Variable refrigerant flow (VRF) or volume system (Retrofit)	Retrofit air conditioning equipment	Refrigerants with a GWP greater than 750	January 1, 2029

(4) Table 4 in this section lists prohibited substances in small containers of refrigerant and nonessential consumer products, as the terms are defined in WAC 173-443-030, and the effective date of the prohibition.

**TABLE 4. Prohibited Substances for Small Containers of Refrigerant and Nonessential Consumer Products**

End-Use	Prohibited Substances	Effective Date
Small containers of refrigerant	Substitutes with a GWP greater than 150	July 25, 2021
Nonessential consumer products	Substitutes with a GWP greater than 150	July 25, 2021

[Statutory Authority: Chapter 70A.60 RCW. WSR 23-24-041 (Order 21-02), § 173-443-040, filed 11/30/23, effective 12/31/23. Statutory Authority: Chapters 70A.45 and 70A.15 RCW. WSR 21-01-085 (Order 19-04), § 173-443-040, filed 12/10/20, effective 1/10/21.]