

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

| End-Use Category: Aerosol Propellants | | |
|--|--|-----------------------|
| End-Use | Prohibited Substances | Effective Date |
| Aerosol propellants | HFC-125, HFC-134a, HFC-227ea and blends of HFC-227ea and HFC-134a | January 1, 2020 |
| End-Use Category: Air Conditioning | | |
| End-Use | Prohibited Substances | Effective Date |
| 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 |
| End-Use Category: Refrigeration | | |
| End-Use | Prohibited Substances | Effective Date |
| 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 |

| End-Use Category: Refrigeration | | |
|--|---|-----------------------|
| End-Use | Prohibited Substances | Effective Date |
| 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 |

| End-Use Category: Foams | | |
|---|---|-----------------------|
| End-Use | Prohibited Substances | Effective Date |
| 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

| End-Use | Criteria | Prohibited Substances | Effective Date |
|--|---|--|-----------------------|
| 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 |

| End-Use | Criteria | Prohibited Substances | Effective Date |
|--|---|--|-----------------------|
| 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

| End-Use | Criteria | Prohibited Substances | Effective Date |
|--|-------------------------------------|--|---|
| 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.]