



Tech Bulletin

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Washington Administrative Code Prohibited Substances

The Washington Department of Ecology has created an Administrative Code (WAC) outlining Washington’s laws about new and retrofitted refrigeration systems. Table 1 outlines the prohibited substances for new or retrofitted products and equipment. Table 2 outlines the prohibited substances for new or retrofitted refrigeration equipment.

TABLE 1: PROHIBITED SUBSTANCES FOR NEW PRODUCTS AND EQUIPMENT		
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)	1-Jan-23
Supermarket systems (Retrofit)	R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R-428A, R-434A, R-507A	1-Jan-20
Supermarket systems (New)	HFC-227ea, R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R-428A, R-434A, R-507A	1-Jan-20
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	1-Jan-20
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	1-Jan-20
Stand-alone units, except for automatic commercial ice machines (Retrofit)	R-404A, R-507A	1-Jan-20
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-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	1-Jan-20
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)	1-Jan-21
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)	1-Jan-20

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	1-Jan-25
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	1-Jan-29
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	1-Jan-25
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	1-Jan-29
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	1-Jan-25
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	1-Jan-29
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	1-Jan-25
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	1-Jan-29
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	1-Jan-24
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	1-Jan-24

Table Information

- “New refrigeration equipment” means any refrigeration equipment or system manufactured for an end-use listed in Table 1.
- “New refrigeration equipment” for the end-use listed in table 2 refers to first installed using new components, used components, or a combination of new and used components, and that is one of the following:
 - New Construction in a new or existing facility;
 - An addition or modification that increases the nominal compressor capacity of a system in existing facility;
 - New construction in an existing facility not previously used for retail food refrigeration, cold storage, ice rinks, or industrial process refrigeration; or
 - A system in an existing facility used for retail food refrigeration, cold storage, ice rinks, or industrial process refrigeration that is modified such that the system undergoes cumulative replacement of 75 percent or more of its evaporators (by number) and 100 percent of its compressor racks, condensers, and connected evaporator loads.
- “Retrofit” means to convert an appliance from one refrigerant to another refrigerant. Retrofitting includes the conversion of the appliance to achieve system compatibility with the new refrigerant and may include, but is not limited to, changes in lubricants, gaskets, filters, driers, valves, o-rings, or appliance components. For the purposes of the tables, “retrofit” refers to an appliance or equipment that has undergone a retrofit.

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