

# Small cans of refrigerant have big impacts



Figure 1. 12 ounce can of R-134a

## What's in the can?

Most commonly used to recharge motor vehicle air conditioning (MVAC) systems, these small canisters contain hydrofluorocarbons (HFCs), a potent greenhouse gas commonly used in refrigeration. As the fastest growing greenhouse gas in the world, HFCs are short-lived “super pollutants” and can be thousands of times more potent than carbon dioxide. This results in HFCs having an extreme impact on the global climate crisis. Since 1994, the most common refrigerant used in MVAC systems has been (HFC)-134a, or R-134a. Starting in 2021, MVAC systems in newly manufactured passenger vehicles in the United States will no longer use HFC-134a.

## Washington's small can prohibition

In May 2021, Washington state passed House Bill 1050 expanding on the 2019 HFC restrictions. As of July 25, 2021, this law prohibits the sale and purchase of small cans of refrigerants and nonessential consumer products (e.g., air horns, noisemakers) containing high- Global warming potential (GWP\*) refrigerants. Washington is currently the only state to implement a restriction on the sale of all small canisters containing high-GWP refrigerant.

\*GWP- measures how much heat a greenhouse gas traps in the atmosphere compared to carbon dioxide.

## Who is impacted?

The law prohibits the sale, purchase or offer for sale of high-GWP recharge canisters between 2 ounces - 2 pounds in size. Retailers and consumers of these canisters may be impacted by the change. Motor vehicle owners with MVAC systems containing R-134a (most vehicles model year 1994-2020) will need to take their vehicle to EPA Section 609 certified mechanics to have their MVAC system serviced.

## Why the change?

- [EPA states](#), the “use of HFC-134a in MVAC systems accounts for an estimated 24% of total global HFC consumption. It is the most abundant HFC in the atmosphere.”
- Prior to this law, motorists were not required to repair leaks in the MVAC system and could repeatedly refill the unit, allowing potent HFC’s to continue leaking into the atmosphere. Routing MVAC repairs to EPA certified technicians stops this cycle because technicians are required to fix all leaks before refilling a system with refrigerant.
- EPA Section 609 certified mechanics are trained to safely evacuate and handle refrigerants to prevent refrigerant loss during repairs.
- The release of one 12oz can of R-134a has the equivalent CO2 emissions of about four tanks of gasoline in a standard fuel passenger vehicle. That is equal to roughly 10 round trip commutes from Olympia to Seattle, WA or a road trip from Seattle to San Diego, CA.

## Other important considerations

Washington consumers may still purchase AC recharge canisters of 1234yf, which is a low-GWP refrigerant used in newer model vehicles. This refrigerant is not interchangeable with R-134a and if mixed can cause significant damage to the MVAC system and be hazardous to vehicle passengers and service technicians. Also, it is against federal regulations to add 1234yf to an MVAC system designed for R-134a or any other refrigerant.

Federal regulations require self-sealing valves on all MVAC canisters sold in the US, which automatically seals any remaining refrigerant in the can following the use of the can. While this helps with reducing emissions, it does not address leaks from MVAC systems like WA’s law does.

Some R-134a recharge canisters include an additive, leak stop, designed to seal minor leaks in an MVAC system. A temporary fix with potential negative impacts to the system long term, this method is not a repair equal to that of an EPA certified technician.

## Contact information:

Leonard Machut  
 Leonard.machut@ecy.wa.gov  
 360-890 -6381