

Following repair and successful verification tests, inspections must be conducted:

- For commercial refrigeration appliances with a full charge of 500 or more pounds: once every three months until the leak rate calculation is below the applicable leak rate for four quarters in a row.
- For commercial refrigeration appliances with a full charge of 50 or more pounds but less than 500 pounds: once per calendar year until the leak rate calculation is below the applicable leak rate for one year.
- For comfort cooling appliances and other appliances: once per calendar year until the leak rate calculation is below the applicable leak rate for one year.

These inspections are not required on appliances, or portions of appliances, that are continuously monitored by an automatic leak detection system that is audited or calibrated annually. The installation and the annual audit/calibration must be documented for three years.

RETROFIT OR RETIREMENT

In lieu of conducting repairs, facilities may retrofit or retire refrigeration or A/C equipment. In this event, facilities must create a retrofit or retirement plan within 30 days after determining that the leak rate trigger has been exceeded or after a failed follow-up verification test, or if good-faith efforts to repair a leak are unsuccessful. A retrofit or retirement plan must:

- Identify the appliance and its location;
- Identify the refrigerant type and the full charge of the appliance;
- Identify the refrigerant type and the full charge to which the appliance will be converted (if retrofitted);
- Itemize the procedure for converting the appliance to a different refrigerant (if retrofitted);
- Plan for the disposition of recovered refrigerant;
- Plan for the disposition of the appliance (if retired);
- Include a schedule for completion of the appliance retrofit or retirement; and
- The date and signature of an authorized company official.

These plans must be maintained for at least three years.

All retrofit or retirement work must be completed within one year, unless an extension is submitted to the EPA and the EPA rejects the request.

Owners or operators of commercial refrigeration, comfort cooling, or other equipment are automatically allowed 18 months to retire an appliance if the replacement appliance uses an exempt substitute refrigerant.

RECORDKEEPING

INVENTORY

Facilities must maintain certain information for all large appliances containing Class I ODS or Class II ODS. This information includes:

1. The name of the owner or operator of the appliance;
2. The address where the appliance is located;
3. The full charge of the appliance and the method used to determine the full charge. The full charge may be determined using one or a combination of the following methods:
 - Manufacturer's determination;
 - Appropriate calculations based on component sizes, density of refrigerant, volume of piping, and other relevant considerations;
 - Actual measurements of the amount of refrigerant added to or evacuated from the appliance, including for seasonal variances; and/or
 - Use of an established range based on the best available data regarding the normal operating characteristics for the appliance, where the midpoint of the range will serve as the full charge. When this method is used, the record must include the range of the full charge of the appliance, its midpoint, and how the range was determined.
4. Any revisions of the full charge, how they were determined, and the dates such revisions occurred.

This information must be maintained for each appliance until three years after the appliance is retired.

RCC FACT SHEET - REFRIGERANT REGULATIONS



REPAIR, SERVICE, MAINTENANCE, AND DISPOSAL RECORDS

Facilities must maintain certain information when refrigerant is evacuated from an appliance with a full charge of more than 5 pounds and less than 50 pounds of any Class I ODS, Class II ODS, or non-exempt substitute refrigerant ("mid-sized appliances"), for purposes of disposing of that appliance. This information includes:

1. The company name, location of the appliance, date of recovery, and type of refrigerant recovered for each appliance;
2. The total quantity of refrigerant, by type, recovered from all disposed appliances in each calendar month; and
3. The quantity of refrigerant, by type, transferred for reclamation and/or destruction, the person to whom it was transferred, and the date of transfer.

Facilities must maintain records of maintenance, service, repair, and disposal for all large appliances containing Class I ODS or Class II ODS. The record must include:

1. The identity and location of the appliance;
2. The date of the maintenance, service, repair, or disposal performed;
3. The part(s) of the appliance being maintained, serviced, repaired, or disposed;
4. The type of maintenance, service, repair, or disposal performed for each part;
5. The name of the person performing the maintenance, service, repair, or disposal; and
6. The amount and type of refrigerant added to or removed from the appliance.

When your own technician performs this work on large appliances, the record must also include:

1. The full charge of the appliance; and
2. The leak rate and the method used to determine the leak rate.

These repair, service, maintenance, and disposal records must be maintained for at least three years.

VERIFICATION TEST RECORDS

Facilities must maintain records of repair verification tests

for all large appliances containing any Class I ODS or Class II ODS. This record must include:

1. The date of the verification tests;
2. The location of the appliance and location(s) of all repaired leaks that were tested;
3. The type(s) of verification tests used; and
4. The results of those tests.

Verification test records must be maintained for at least three years.

LEAK INSPECTION RECORDS

Facilities must maintain records of leak inspection for all large appliances containing any Class I ODS or Class II ODS. This record must include:

1. Date of inspection;
2. The method(s) used to conduct the leak inspection;
3. A list of the location of each leak that was identified; and
4. A certification that all visible and accessible parts of the appliance were inspected.

Leak inspection records must be maintained for at least three years.

END-OF-LIFE OPTIONS FOR REFRIGERANTS AND REFRIGERATION EQUIPMENT

RECOVER

In general, before disposal of refrigeration or A/C equipment, the refrigerant must be recovered from the equipment, meaning the refrigerant is removed and properly stored. A certified technician must recover refrigerant before disposal for refrigeration equipment that is dismantled onsite. Technicians use different methods and equipment depending on the size and age of the equipment. Often the recovery equipment must be certified by an EPA-approved organization.

For small appliances that enter the waste stream with the refrigerant charge intact, the final person in the disposal chain (i.e., scrap metal recycler or landfill) is responsible for refrigerant recovery. However, the recycler or landfill operator may require the refrigerant to be properly removed

by a certified technician. In such circumstances, the recycler or landfill will require a signed statement to verify the proper removal of all remaining refrigerant. If the refrigerant leaked out of the appliance before reaching the recycler or landfill, a signed statement confirming such will need to be provided to the recycler or landfill.

A small appliance is considered to be any of the following products that are fully manufactured, charged, and hermetically sealed in a factory with five pounds or less of refrigerant: refrigerators and freezers designed for home use, room A/C units, dehumidifiers, under-the-counter ice makers, vending machines, and drinking water coolers.

Once recovered, the refrigerant can be reclaimed or recycled.

RECLAIM

A recovered refrigerant cannot be resold unless it is reclaimed to the purity of level specified in [Appendix A to 40 CFR Part 82, Subpart F](#) by an [EPA-certified reclaimer](#).

RECYCLING

Recycling involves recovering the refrigerants for reuse within the same system or another system operated by the same owner. Recycling may involve using EPA-approved equipment to clean refrigerants for reuse, but not to the same standards as reclamation.

DESTRUCTION

A recovered ODS refrigerant can be sent for destruction to a facility that can achieve the destruction efficiencies required by regulations under the Clean Air Act or the Resource Conservation and Recovery Act (RCRA).

HAZARDOUS WASTE

CFC refrigerants that will be reclaimed for further use are eligible for an exemption from federal hazardous waste regulation in 40 CFR 261.4(b)(12). CFC refrigerants that cannot be reclaimed must be evaluated to determine if they exhibit any of the characteristics of a hazardous waste (i.e., ignitability, corrosivity, reactivity, and toxicity). Those exhibiting such characteristics must be handled according to regulations established under RCRA. Non-CFC refrigerants destined for reclamation or recycling that involves filtering, cleaning or purifying the refrigerants prior to reuse may be

considered wastes and must also be evaluated to determine if they are hazardous wastes and managed accordingly. For example, ammonia or any ignitable compressed gas such as propane will need to be evaluated to determine if they exhibit any of the characteristics of a hazardous waste. Many states are authorized to implement their own hazardous waste regulations, and they may be more stringent than federal regulations.

IMPORTS/EXPORTS

Importers or exporters of appliances designed for household or commercial use that are precharged with fluorinated GHG refrigerants, such as HFCs, are subject to the EPA's Mandatory GHG Reporting Rule under [40 CFR 98, Subpart QQ](#), if either the total imports or total exports of fluorinated GHGs is greater than or equal to 25,000 metric tons of CO₂ equivalents per year. Such appliances may include A/C units, MVACs, refrigerators, chillers, and freezers.

STATE REQUIREMENTS

California is currently the state most aggressively regulating refrigerants. However, the state regulations are focused on the climate change potential of refrigerant emissions, rather than the ozone-depletion potential. As part of California's Global Warming Solutions Act of 2006 (AB 32), the California Air Resources Board (CARB) has taken numerous actions to regulate high GWP substances. These regulations impact:

1. Businesses with refrigeration systems;
2. Any person who installs, services or disposes of any appliance using a high-GWP refrigerant; and
3. Retailers selling small containers of automotive refrigerant.

Under SB 1383, California is required to reduce HFC emissions 40% below 2013 levels by 2030. In December 2020, the CARB approved new rules that will place GWP limits on the refrigerants used in stationary refrigeration and air conditioning end uses. Beginning in 2022, new facilities will be required to use refrigerants that can reduce their emissions by up to 90%.

The state also has plans to regulate transport refrigeration units (TRU), refrigeration systems powered by diesel internal combustion engines designed to refrigerate or heat perishable products that are transported in various containers, including truck vans, semi-truck trailers, shipping containers, and railcars. Provisions in the 2021 proposal include transitioning truck TRUs to zero emission, requiring the use of lower GWP refrigerant, and including facility reporting requirements.

Within California, the South Coast Air Quality Management District ([SCAQMD](#)), the air quality regulatory agency for Orange County, and portions of Los Angeles, San Bernardino, and Riverside counties, has established regulations governing refrigerants in stationary A/C systems.

ENFORCEMENT

The EPA enforces regulations governing ODS emissions. Enforcement actions can range from civil fines to criminal prosecution. The EPA can impose civil fines up to \$37,500 per day per violation. The most common violation is failure to comply with the requirements for leaking equipment.

For California facilities, the CARB is responsible for implementing and enforcing the requirements of the state's refrigerant management program, and the SCAQMD implements and enforces its refrigerant regulation within its jurisdiction.

ABOUT THE RETAIL COMPLIANCE CENTER

The Retail Compliance Center (RCC) provides resources on environmental compliance and sustainability for all types and sizes of retailers. The RCC's goal is to develop retail-specific resources, tools and innovative solutions to help companies cost-effectively improve their compliance and environmental performance.