

Servicing Appliances Containing Refrigerant

Self-Inspection Checklist



Optional Information

Name of School:
Date of Inspection:
Career-Technical program/course/room:
Signature of inspector:

Guidelines:

This checklist covers regulations issued by the U.S. Environmental Protection Agency under Subpart F, 40 CFR 82.150 to 82.166. A yes answer to a question indicates that this portion of the inspection complies with the EPA standard, an Occupational Safety and Health Administration (OSHA) standard, or with a nonregulatory recommendation. Definitions of terms in bold type are provided at the end of the checklist. This checklist does not cover motor vehicle air conditioners (MVACs). See the Service and Repair of Motor Vehicle Air Conditioners checklist. This checklist does not address regulations for approved equipment testing organizations, technician certification programs, persons who take the final step in the disposal process of small appliances or MVAC-like appliances, and reclaim certification. Appendixes A through D of the regulations 40 CFR 82.150 to 82.166 should also be consulted and include: Appendix A-Specifications for fluorocarbon refrigerants; Appendix B-Performance of refrigerant recovery, recycling, and/or reclaim equipment; Appendix C-Method for testing recovery devices for use with small appliances; and Appendix D-Standards for becoming a certifying program for technicians.

Maintaining, Servicing, and Repairing Appliances

1	Is it prohibited to knowingly vent or release any class I or class II refrigerant into the environment? [40 CFR 82.154(a)] <i>Note: Small releases associated with good faith attempts to recycle or recover refrigerants are permitted if proper procedures are followed</i>
2	Do students and employees follow EPA-required procedures when opening an appliance for maintenance, service, or repair? [40 CFR 82.154(b) and 82.156] <i>Note: Different appliances must be evacuated to different pressures according to the age of the recovery or recycling equipment and the type of appliance. Certain exceptions are also permitted. Consult 40 CFR 82.156 for additional information.</i>

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Maintaining, Servicing, and Repairing Appliances

3	Are students and employees who open an appliance EPA-certified for that type of appliance? [40 CFR 82.161(a)] <i>Note: Employees must be certified as one of the following:</i> 1. Type I persons maintain, service, or repair small appliances. 2. Type II persons maintain, service, or repair high- or very high-pressure appliances or MVAC-like appliances. 3. Type III persons repair low-pressure appliances. 4. Universal persons maintain, service, or repair all types of appliances. Persons who maintain, service, or repair MVAC-like appliances may be certified according to the requirements for MVAC service, repair, and disposal (see checklist for Service and Repair of Motor Vehicle Air Conditioners).
4	When students or employees open appliances, is refrigerant that is evacuated to a system receiver or a recovery or recycling machine certified according to EPA requirements? [40 CFR 82.154(f) and 82.156]
5	When students or employees service appliances normally containing 50 or more pounds of refrigerant, does the owner/operator of the appliance receive an invoice or other documentation that indicates the amount of refrigerant added to the appliance? [40 CFR 82.166(j) and 82.158]
6	Are copies of certifications maintained at the school for at least 3 years? [40 CFR 82.166(l) and (m)]
7	Do students and employees use recovery or recycling equipment according to the manufacturer's directions, unless the directions conflict with EPA requirements? [40 CFR 82.156(d)]

Disposal

8	Is it prohibited to knowingly vent or release any class I or class II refrigerant to the environment when disposing of an appliance? [40 CFR 82.154(a)] <i>Note: Small releases associated with good faith attempts to recover refrigerants are permitted, if all EPA required practices are followed.</i>
9	Are all students and employees who dispose of appliances (except small appliances and MVAC-like appliances) EPA-certified for that type of appliance? [40 CFR 82.161(a)]
10	Are copies of required certifications maintained at the school for at least 3 years? [40 CFR 82.166(l) and (m)]
11	When students or employees dispose of appliances (except small appliances and MVAC-like appliances), is refrigerant that is evacuated to a system receiver or a recovery or recycling machine certified according to EPA requirements? [40 CFR 82.156(a)]
12	If students or employees remove refrigerant before disposing of appliances, (except small appliances and MVAC-like appliances), do they follow EPA required procedures for proper evacuation? [40 CFR 82.156] <i>Note: Different evacuation pressures are specified according to the age of the recovery or recycling equipment and the type of appliance. Consult 40 CFR 82.156(a) for additional information.</i>
13	If students or employees dispose of small appliances, do they recover refrigerant from the appliance according to one of the following? [40 CFR 82.156(h)] 1. Ninety percent of the refrigerant must be recovered if the compressor is operating. 2. Eighty percent of the refrigerant must be recovered if the compressor is not operating. 3. The appliance is evacuated to 4 inches of mercury vacuum.
14	If refrigerant is recovered for disposal of MVAC-like appliances, is the system pressure of the appliance reduced to or below 102 mm of mercury vacuum, using equipment that meets EPA requirements? [40 CFR 82.156(g)]
15	If the small appliance or MVAC-like appliance is sent to someone else for final disposal and the refrigerant has been recovered according to EPA requirements, is documentation provided that includes (a) a signed statement certifying that the refrigerant has been properly removed, (b) the name and address of the person who recovered the refrigerant, and (c) the date the refrigerant was removed? [40 CFR 82.156(f)]
16	If the small appliance or MVAC-like appliance refrigerant is not recovered before disposal, is the appliance sent to a person who will dispose of the appliance according to EPA requirements? [40 CFR 82.156]

General Requirements

17	Has a proper Equipment operations certification been prepared and sent to EPA? [40 CFR 82.154(e) and 82.162]
18	If class I or class II substances are sold or distributed for use as a refrigerant, are invoices maintained for at least 3 years indicating the name of the purchaser, the date of sale, and the quantity of refrigerant purchased? [40 CFR 82.166(a) and (m)]
19	Is it prohibited to alter the design of any certified refrigerant recycling or recovery equipment in a way that would affect the equipment's ability to meet the certification standards? [40 CFR 82.154(d)]
20	If class I or class II refrigerants are purchased, is evidence provided to the wholesaler regarding each person's certification, including any changes to certification? [40 CFR 82.166(b)]
21	Is selling any used class I or class II refrigerant prohibited unless one of the following is true? [40 CFR 82.154(g) and (h)] 1. The buyer is an EPA-certified reclaimer following EPA approved procedures. 2. The class I or class II substance was used only in an MVAC or MVAC-like appliance and is to be used only in an MVAC or MVAC-like appliance. 3. The class I or class II substance is contained in an appliance that is sold or offered for sale together with the class I or class II substance.
22	Is selling or distributing any class I or class II substance for use as a refrigerant prohibited unless [40 CFR 82.154(m)] 1. the buyer is a EPA-certified technician; 2. the refrigerant is sold only for eventual resale to EPA-certified technicians or to appliance manufacturers; 3. the refrigerant is sold to an appliance manufacturer; 4. the refrigerant is contained in an appliance; or 5. the refrigerant is charged into an appliance by a EPA certified technician during maintenance, service, or repair.
23	If you are the owner/operator of an appliance normally containing 50 or more pounds of refrigerant, are records maintained documenting the date and type of service on the appliance and the amount of refrigerant added? [40 CFR 82.166(k)]
24	If you are the owner/operator of a commercial refrigeration or industrial process refrigeration equipment, are all leaks repaired within 30 days if the equipment is leaking at a rate such that the loss of refrigerant will exceed 35° of the total charge during a 12-month period? [40 CFR 82.156(i)(1)]
25	If you are the owner/operator of an appliance normally containing more than 50 pounds of refrigerant and not covered by question 25, are all leaks repaired within 30 days if the appliance is leaking at a rate such that the loss of refrigerant will exceed 15° of the total charge during a 12-month period? [40 CFR 82.156(j)] <i>Note: Owners are not required to repair the leaks indicated in questions 25 and 26 if, within 30 days, they develop a one-year retrofit or retirement plan for the leaking equipment. The plan must be in writing, dated and kept on site. All work must be completed within one year of the plan's date.</i>

Definitions

Appliance: any device that contains and uses a class I or class II substance as a refrigerant and that is used for household or commercial purposes, including air conditioner, refrigerator, chiller, or freezer.

Class I refrigerants: include chlorofluorocarbons (CFCs), halons, carbon tetrachloride, and methyl chloroform.

Class II refrigerants: include hydrochlorofluorocarbons (HCFCs).

Equipment operations certification: a signed statement from a school that maintains, services, or repairs appliances except for MVACs and includes: (a) the name and address (including the county) of the purchaser of any EPA-approved equipment used to recover and recycle refrigerant; (b) the name and address of the establishment where the equipment will be located; (c) the manufacturer name and equipment model number, the date of manufacture, and the serial number of the equipment; (d) a statement that the equipment will be properly used in servicing appliances

and that the information given is true and correct; (e) a signature of the owner of the equipment or other responsible officer. This equipment operations certification must be sent to CAA § 608 Enforcement Contact, EPA Region II, Jacob K. Javits Federal Building, 26 Federal Plaza, Room 5000, New York, NY 10278. [40 CFR 82.154(e) and 82.162]

High-pressure appliance: an appliance that uses a refrigerant with a boiling point between -50 and 10°C at atmospheric pressure (29.9 inches of mercury). This definition includes appliances using refrigerants -12, -22, -114, -500, or -502.

Low-pressure appliance: an appliance that uses a refrigerant with a boiling point above 10°C at atmospheric pressure (29.9 inches of mercury). This definition includes equipment using refrigerants -11, -113, and -123.

MVAC-like appliance: a motor-vehicle air-conditioner-like appliance. It includes mechanical vapor compression, open-drive compressor appliances used to cool the driver's or passenger's compartment of a non-road motor vehicle. This includes the air-conditioning equipment found on agricultural or construction vehicles. This definition does not cover appliance using HCFC-22 refrigerant.

Opening an appliance: any service, maintenance, or repair on an appliance that could be reasonably expected to release refrigerant from the appliance to the atmosphere unless the refrigerant was previously recovered from the appliance.

Small appliance: any of the following products that are fully manufactured, charged, and hermetically sealed in a factory with 5 pounds or less of refrigerant: refrigerators and freezers designed for home use, room air conditioners (including window air conditioners and packaged terminal air conditioners), packaged terminal heat pumps, dehumidifiers, under-the-counter ice makers, vending machines, and drinking water coolers.

Very high-pressure appliance: an appliance that uses a refrigerant with a boiling point below -50°C at atmospheric pressure (29.9 inches of mercury). This definition includes equipment using refrigerants -13 and -503.

Sources of Additional Information

Stratospheric Ozone Information Hotline: 1-800-296-1996