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INFOBulletin #4

REFRIGERANT RECOVERY RULES FOR MAJOR HOME APPLIANCES

Chemicals known as chlorofluorocarbons (CFCs) and hydrofluorocarbons (HCFCs) are used in refrigeration and cooling equipment of all kinds. Household refrigerators and freezers use CFC-12 (also known as R-12 and Freon, a brand name) as a refrigerant; dehumidifiers and room air conditioners use HCFC-22 (also called R-22).

US Environmental Protection Agency (EPA) regulations require that CFC's and HCFCs be recovered from appliances before they are disposed of or recycled. The following is a summary of these regulations as they apply to home appliances; the text of the regulations follows. Definitions of terms used in the regulations appear at the end of this Bulletin.

Summary of EPA Refrigerant Recovery and Recycling Rules

The following is a summary of EPA regulations as they apply to small appliance repair and disposal, and technician and equipment certifications. Home appliances are defined by EPA as "small appliances" because they use less than five pounds of refrigerant. Excerpts from the regulations follow.

1. All new appliances sold after November 15, 1993 must have a process stub on the refrigeration system.
2. Anyone repairing a small appliance, or preparing it for disposal, must recover 80 - 90% of the refrigerant (depending on equipment age and condition of the system).
3. Persons engaged in the final disposal of appliances are responsible for ensuring that all refrigerant gases have been removed. The same persons must keep records verifying proper refrigerant removal from end-of-life appliances.
4. Refrigerant recovery equipment manufactured after November 15, 1993 must be certified by an approved testing organization. Older equipment is considered certified if it can meet the same standards.
5. Technicians repairing or recovering refrigerant from small appliances must inform the EPA that they are using certified refrigerant recovery equipment.
6. Effective November 14, 1994, technicians repairing or removing refrigerant from small appliances must be certified.

Code of Federal Regulations

Title 40

Part 82 - Protection of Stratospheric Ozone

Subpart F - Recycling and Emissions Reduction

§82.154 Prohibitions

- (f) Effective August 12, 1993, no person may recover refrigerant from small appliances...for purposes of disposal of these appliances unless such person has certified to the Administrator pursuant to §82.162 that such person has acquired recovery equipment that meets the standards set forth in §82.158(l) and/or (m), as applicable, and that such person is complying with the applicable requirements of this subpart.
- (k) Effective November 15, 1993, no person may sell or distribute any small appliance unless such equipment is equipped with a process stub to facilitate the removal of refrigerant at servicing and disposal.

§82.156 Required Practices

- (a) Effective July 13, 1993, all persons opening appliances...for maintenance, service or repair must evacuate the refrigerant... to a system receiver or a recovery or recycling machine certified pursuant to §82.158.
 - (4) Persons opening small appliances for maintenance, service, or repair must:
 - (i) when using recycling and recovery equipment manufactured before November 15, 1993, recover 80% of the refrigerant in the small appliance; or
 - (ii) When using recycling or recovery equipment manufactured on or after November 15, 1993, recover 90% of the refrigerant in the appliance when the compressor in the appliance is operating, or 80% of the refrigerant in the appliance when the compressor in the appliance is not operating; or
 - (iii) Evacuate the small appliance to four inches of mercury vacuum.
- (f) Effective July 13, 1993, persons who take the final step in the disposal process (including but not limited to scrap recyclers and landfill operators) or a small appliance, room air conditioning must either:
 - (1) Recover any remaining refrigerant from the appliance in accordance with paragraph (g) or (h) or this section, as applicable; or
 - (2) Verify that the refrigerant has been evacuated from the appliance or shipment of appliances previously. Such verification must include a signed statement from the person from whom the appliances is obtained that all refrigerant that had not leaked previously has been recovered from the appliance or shipment of appliances in accordance with paragraph (g) or (h) of this section, as applicable. This statement must include the name and address of the person who recovered the refrigerant and the date the refrigerant was recovered or a contract that the refrigerant will be removed prior to delivery.
 - (3) Persons complying with paragraph (f)(2) of this section must notify suppliers of appliances that refrigerant must be properly removed before delivery of the items to the facility. The form of this notification may be warning signs, letters to suppliers, or other equivalent means.
- (h) All persons recovering the refrigerant from small appliances for purposes of disposal of these appliances must either:
 - (1) Recover 90% of the refrigerant in the appliance when the compressor in the appliance is operating, or 80% of the refrigerant in the appliance when the compressor in the appliance is not operating; or
 - (2) Evacuate the small appliance to four inches of mercury vacuum.

§82.158 Standards for recycling and recovery equipment

- (m) Equipment used to evacuate refrigerant from small appliances before they are disposed of must be capable of either:
 - (1) Removing 90% of the refrigerant when the compressor of the small appliance is operating and 80% of the refrigerant when the compressor of the small appliance is not operating....
 - (2) Evacuating the small appliance to four inches of vacuum when tested using a properly calibrated pressure gauge.

§82.161 Technician certification

- (a) Effective November 14, 1994, persons who maintain, service, or repair appliances... must be certified by an approved technician certification program as follows:
 - (1) Persons who maintain, service, or repair small appliances... must be properly certified as Type I technicians.

§82.162 Certification by owners of recovery and recycling equipment

- (a) No later than August 12, 1993, or within 20 days of commencing business for those persons not in business at the time of promulgation, persons maintaining, servicing, or repairing appliances must certify to the Administrator that such person has acquired certified recovery or recycling equipment and is complying with the applicable requirements of this subpart. Certification shall take the form of a statement signed by the owner of the equipment or another responsible officer and setting forth:
 - (1) The name and address of the purchaser of the equipment, including the country name;
 - (2) The name and address of the establishment where each piece of equipment is or will be located;
 - (3) The number of service trucks (or other vehicles) used to transport technicians and equipment between the establishment and job sites and the field;
 - (4) The manufacturer name, the date of manufacture, and if applicable, the model and serial number of the equipment; and
 - (5) The certification must also include a statement that the equipment will be properly used in servicing or disposing of appliances and that the information given is true and correct.
- (c) No later than August 12, 1993, persons recovering refrigerant from small appliances for purposes of disposal of these appliances must certify to the Administrator that such person has acquired recovery equipment that meets the standards set forth in §82.158(l) and/or (m), as applicable, and that such person is complying with the applicable requirements of this subpart.... (This certification must contain the same information as in paragraph (a)).

§82.166 Reporting and record keeping requirements

- (i) Persons disposing of small appliances. must maintain copies of signed statements obtained pursuant to §82.156(f)(2).

Appendix D - Standards for Becoming a Certifying Program for Technicians

d. Test Content

All technician certification tests will include 25 questions from Group I. Group I will ask questions in the following areas:

- I. Environmental impact of CFCs and HCFCs
- II. Laws and regulations
- III. Changing industry outlook

Type I, Type II, and Type III certification tests will include 25 questions from Group H will ask question covering sector-specific issues in the following areas:

- IV. Leak detection

- V. Recovery Techniques
- VI. Safety
- VII. Shipping
- VIII. Disposal

DEFINITIONS

Appliance

Any device which contains and uses a CFC or HCFC substance as a refrigerant and which is used for household or commercial purposes, including any air conditioner, refrigerator, chiller, or freezer. (See "small appliance", below.)

Reclaim

To reprocess refrigerant to at least the purity specified in the ARI Standard 700-1988 *Specifications for Fluorocarbon Refrigerants*. This term usually implies the use of processes or procedures available only at a reprocessing or manufacturing facility.

Recover

To remove refrigerant in any condition from an appliance and store it without necessarily testing or processing it in any way.

Recycle

To remove refrigerant from an appliance and clean the refrigerant for reuse without meeting all of the ARI 700 requirements for reclamation. In general, recycled refrigerant is cleaned using oil separation and filtering to reduce moisture, acidity, and particulate matter. This term usually applies to procedures implemented at the field job site or at a local service shop.

Small Appliance

Products manufactured and hermetically sealed in a factory with five pounds or less of refrigerant: refrigerators and freezers designed for home use, room air conditioners, packaged terminal heat pumps, dehumidifiers, under-the-counter ice makers, vending machines, and drinking water coolers.

Technician

Any person who performs maintenance, service, or repair that could reasonably be expected to release CFCs or HCFCs into the atmosphere, including but not limited to installers, contractor employees, in-house service personnel, and in some cases, owners. Technician also means any person disposing of appliances, except for small appliances.