Refrigerant Recovery FAQ

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1. Is ozone depletion a real problem?

Yes! Since the early 1980's an ozone "hole" has formed over Antarctica every September and October. Rather than being a literal hole through the layer, the ozone hole is a large are of the stratosphere with extremely low amounts of ozone. Ozone levels fall by over 60% during the worst years. In addition, smaller, but still significant, stratospheric decreases have been seen at other, more populated regions of the Earth. Over the U.S., for instance, ozone levels have fallen 5-10%, depending on the season. Thus, ozone depletion is a global issue and not just a problem at the South Pole.

2. Why do we care if the ozone layer depletes?

The stratospheric ozone layer, is the earth's main shield against the harmful ultraviolet (UV) radiation from the sun. Thus, depletion of the ozone layer can result in increased UV radiation reaching the Earth's surface. Increased UV radiation heightens the incidence of human skin cancer, cataracts, and weakened human immune systems, and it also endangers the environment by threatening important crop yields, and other plant and animal life. For instance, cases of melanoma in the United States, the most serious form of skin cancer, has almost doubled in the past two decades, with at least 32,000 new cases of melanoma and 6,900 deaths estimated in 1994 alone. This rise in melanoma cases and deaths in America is expected to continue.

3. What depletes the ozone layer?

Chemicals, containing chlorine and bromine, such as CFCs and Halons, are responsible for the observed depletions of the ozone layer. These ozone-depleting chemicals are very stable in the lower atmosphere. This enables them to survive long enough to reach the stratosphere, where ultraviolet radiation from the sun causes them to break apart and releases chlorine and bromine atoms. These highly reactive atoms then react with ozone, starting chemical cycles of ozone destruction that deplete the ozone layer. One chlorine atom can destroy more than 100,000 ozone molecules and bromine is 40 times more effective at destroying ozone.

4. What you can do to protect the ozone layer?

- Have your air conditioning system properly serviced.
- Check for leaks; Fixing leaks in air conditioners and HVAC systems before more refrigerant is added helps prevent unnecessary loss of refrigerants.
- Dispose of old appliances and HVAC systems containing refrigerant responsibly. Chlorofluorocarbons and hydrochlorofluorocarbons refrigerant must be removed before it is discarded.

5. What are the major ways of handling HCFC's and CFC's?

- Reclaim - to reprocess refrigerant to at least the purity specified in the ARI Standard 700-1993 and to chemically analyze the refrigerant to determine that it meets this level of purity.
- Recycle- To extract refrigerant from an appliance or HVAC system and to clean refrigerant for reuse without meeting all the requirements of reclamation. Caution special rules apply regarding reuse of recycled refrigerant; it can only be returned to the equipment from which it was removed.
- Recover - To remove refrigerant in any condition from an appliance or HVAC system and to store it in an external container without necessarily testing or processing it in any way.

6. What type of certification do I need to do to work on air conditioning systems?

- You must pass an EPA-approved test given by an EPA-approved certifying organization to become certified under EPA's Section 608 Technician Certification Program. Under this program, there are four types of certification:
  - Type I - for servicing small appliances;
  - Type II- for servicing or disposing of high or very high pressure appliances, except small appliances;
  - Type III - for servicing or disposing of low pressure appliances; and
  - Universal - for servicing all types of appliances.

7. Do I need to be certified to purchase ozone-depleting refrigerants, such as Freon?

The sale of any type of ozone-depleting refrigerant in any size container is restricted to certified technicians. Sales of C FC-12 in containers smaller than 20lbs are restricted solely to Section 609 certified technicians. However, all larger containers of CFC-12 and all containers (regardless of size) of other ozone depleting refrigerants (e.g. HCFC-22, CFC-11) may be bought by both Section 608 and Section 609 certified technicians.

8. When recovering refrigerant how can I speed up the recovery process.

- Use the shortest hoses possible for the job. Long hoses increase the recovery time.
- Remove all restrictions in the hoses. I-loses with ball valves on the ends are better than hoses that are self-sealing. Remove schrader care valves when possible from service ports.
- Always identify the refrigerant you are recovering. This will minimize crass contamination and help you plan far the amount of refrigerant you will be recovering.
- Always pump liquid out of the system first, and then recover the remaining vapors. This will speed up recovery rates significantly.
- With large amounts of refrigerant, use the liquid push pull recovery method. This is three times faster than recovering liquid directly.
- possible, recover from both the high and low side service port on the system you are recovering from. This will speed up your recovery rate.

9. What do I need to know about the new refrigerant R-410A (Puron) (AZ-20)?

- Caution is needed when servicing 410A systems, the operating pressures of 410A are about 1.7 times greater than the working pressures of R-22 under the same conditions.
- High pressure gauges and hose sets are required when servicing 410A systems.