

**Environmental Protection Agency**

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distributors, installers, servicemen, contractors and for consumers.

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1.1.2 This standard is not intended to be used as a guide in defining maximum levels of contaminants in recycled or reclaimed refrigerants used in various applications.

**APPENDIX A1 TO SUBPART F OF PART 82—GENERIC MAXIMUM CONTAMINANT LEVELS**

1.2 *Review and Amendment.* This standard is subject to review and amendment as the technology advances.

Contaminant	Reporting units
Air and Other Non-condensables.	1.5% by volume @ 25 °C (N/A for refrigerants used in low-pressure appliances <sup>1</sup> ).
Water .....	10 ppm by weight 20 ppm by weight (for refrigerants used in low-pressure appliances <sup>1</sup> ).
Other Impurities Including Refrigerant.	0.50% by weight.
High boiling residue .....	0.01% by volume.
Particulates/solids .....	visually clean to pass.
Acidity .....	1.0 ppm by weight.
Chlorides (chloride level for pass/fail is 3ppm).	No visible turbidity.

*Section 2. Scope*

2.1 *Scope.* This standard defines general equipment requirements and the test apparatus, test mixtures, sampling and analysis techniques that will be used to determine the performance of recovery and/or recycling equipment for various refrigerants including R11, R12, R13, R22, R113, R114, R123, R134a, R500, R502, and R503, as referenced in the ANSI/ASHRAE Standard 34-1992, "Number Designation of Refrigerants" (American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc.).

<sup>1</sup> Low-pressure appliances means an appliance that uses a refrigerant with a liquid phase saturation pressure below 45 psia at 104 °F.

*Section 3. Definitions*

3.1 *Recovered refrigerant.* Refrigerant that has been removed from a system for the purpose of storage, recycling, reclamation or transportation.

**BLEND COMPOSITIONS (WHERE APPLICABLE)**

Nominal composition (by weight%)	Allowable composition (by weight%)
Component constitutes 25% or more .....	±2.0
Component constitutes less than 25% but greater than 10% .....	±1.0
Component constitutes less than or equal to 10% .....	±0.5

3.2 Recover. Reference 40 CFR 82.152.

3.3 Recycle. Reference 40 CFR 82.152.

3.4 Reclaim. Reference 40 CFR 82.152.

3.5 *Standard Contaminated Refrigerant Sample.* A mixture of new and/or reclaimed refrigerant and specified quantities of identified contaminants which are representative of field obtained, used refrigerant samples and which constitute the mixture to be processed by the equipment under test.

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3.6 *Push/Pull Method.* The push/pull refrigerant recovery method is defined as the process of transferring liquid refrigerant from a refrigeration system to a receiving vessel by lowering the pressure in the vessel and raising the pressure in the system, and by connecting a separate line between the system liquid port and the receiving vessel.

**APPENDIX B1 TO SUBPART F OF PART 82—PERFORMANCE OF REFRIGERANT RECOVERY, RECYCLING AND/OR RECLAIM EQUIPMENT**

This appendix is based on the Air-Conditioning and Refrigeration Institute Standard 740-1993.

**REFRIGERANT RECOVERY/RECYCLING EQUIPMENT**

*Section 1. Purpose*

1.1 *Purpose.* The purpose of this standard is to establish methods of testing for rating and evaluating the performance of refrigerant recovery, and/or recycling equipment, and general equipment requirements (herein referred to as "equipment") for containment or purity levels, capacity, speed, and purge loss to minimize emission into the atmosphere of designated refrigerants.

3.7 *Recycle Rate.* The amount of refrigerant processed (in pounds) divided by the time elapsed in the recycling mode in pounds per minute. For equipment which uses a separate recycling sequence, the recycle rate does not include the recovery rate (or elapsed time). For equipment which does not use a separate recycling sequence, the recycle rate is a maximum rate based solely on the higher of the liquid or vapor recovery rate, by which the rated contaminant levels can be achieved.

3.8 *Equipment Classification.*

1.1.1 This standard is intended for the guidance of the industry, including manufacturers, refrigerant reclaimers, repackers,

3.8.1 *Self Contained Equipment.* A refrigerant recovery or recycling system which is capable of refrigerant extraction without the assistance of components contained within an air conditioning or refrigeration system.