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Submitted for recognition as an American National Standard

## Standard of Purity for Use in Mobile Air-Conditioning Systems

**Foreword**—Due to the CFC's damaging effect on the ozone layer, recovery/recycling of CFC-12 (R-12) used in mobile air-conditioning (A/C) systems is required to minimize system venting during normal service operations. Establishing recycle specifications for CFC-12 (R-12) assures that system operation with recycled CFC-12 (R-12) will provide the same level of performance as new refrigerant. Refrigerant that has been "reclaimed" must meet the appropriate ARI 700 purity specifications and must be processed by an off-site certified refrigerant reclaimer. Refrigerant that is "recycled" on-site for direct reuse must meet the purity specifications as identified in Section 3 which is less stringent than the ARI 700 requirements.

Extensive field testing with the EPA and the auto industry indicate that reuse of CFC-12 (R-12) removed from mobile A/C systems can be accepted, if the refrigerant is cleaned to a specific "recycled" standard. The purpose of this standard is to establish the specific minimum levels of CFC-12 (R-12) purity required for recycled R-12 removed from automotive A/C systems.

1. **Scope**—This information applies to refrigerant used to service automobiles, light trucks, and other vehicles with similar CFC-12 (R-12) systems. Systems used on mobile vehicles for refrigerated cargo that have hermetically sealed, rigid pipe, are not covered in this document.

### 2. References

2.1 **Applicable Publications**—The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

2.1.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J1989—Recommended Service Procedure for the Containment of CFC-12 (R-12)

SAE J1990—Extraction and Recycle Equipment for Mobile Automotive Air-Conditioning Systems

2.1.2 ARI PUBLICATION—Available from ANSI, 11 West 42nd Street, New York, NY 10036-8002.

ARI 700 Refrigerant Standard

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3. **Purity Specification**—The refrigerant in this document shall have been directly removed from, and intended to be returned to, a mobile air-conditioning (A/C) system. The contaminants in this recycled refrigerant CFC-12 (R-12) shall be limited to moisture, refrigerant oil, and noncondensable gases, which shall not exceed the following level:
  - 3.1 **Moisture**—15 ppm by weight.
  - 3.2 **Refrigerant Oil**—4000 ppm by weight.
  - 3.3 **Noncondensable Gases (Air)**—330 ppm by weight.
4. **Refrigeration Recycle Equipment used in Direct Mobile A/C Service Operations Requirement**
  - 4.1 The equipment shall meet SAE J1990, which covers additional moisture, acid, and filter requirements.
  - 4.2 The equipment shall have a label indicating that it is certified to meet this document.
5. **Purity Specification of Reclaimed CFC-12 (R-12) Refrigerant Supplied in Containers from Other Reclaim Sources**—Purity specification of CFC-12 (R-12) refrigerant supplied in containers from other reclaim sources, for service of mobile A/C systems, shall meet the appropriate ARI 700 Standard (Air Conditioning and Refrigeration Institute).
6. **Operation of the Recycle Equipment**—This shall be done in accordance with SAE J1989.
7. **Notes**
  - 7.1 **Marginal Indicia**—The change bar (I) located in the left margin is for the convenience of the user in locating areas where technical revisions have been made to the previous issue of the report. An (R) symbol to the left of the document title indicates a complete revision of the report.

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