C-25-24

The Engineering Society For Advancing Mobility Land Sea Air and Space®
INTERNATIONAL

A Product of the
Cooperative Engineering Program

SAE J1991 OCT89

Standard of Purity for Use in Mobile Air-Conditioning Systems

SAE Standard
Issued October 1989

Submitted for Recognition as an American National Standard

SAE The Engineering Society For Advancing Mobility Land Sea Air and Space®
400 COMMONWEALTH DRIVE, WARRENDALE, PA 15096

HIGHWAY VEHICLE STANDARD

SAE J1991

Issued October 1989

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, recycle of CFC-12 (R-12) used in mobile air-conditioning systems is required to reduce system venting during normal service operations. Establishing recycle specifications for R-12 will assure that system operation with recycled R-12 will provide the same level of performance as new refrigerant.

Extensive field testing with the EPA and the auto industry indicate that reuse of R-12 removed from mobile air-conditioning systems can be considered, if the refrigerant is cleaned to a specific standard. The purpose of this standard is to establish the specific minimum levels of R-12 purity required for recycled R-12 removed from mobile automotive air-conditioning systems.

1. SCOPE:

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

2. REFERENCES

SAE J1989, Recommended Service Procedure for the Containment of R-12

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

ARI Standard 700-88

3. PURITY SPECIFICATION:

The refrigerant in this document shall have been directly removed from, and intended to be returned to, a mobile air-conditioning system. The contaminants in this recycled refrigerant 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 AIR-CONDITIONING 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 RECYCLED R-12 REFRIGERANT SUPPLIED IN CONTAINERS FROM OTHER RECYCLE SOURCES:

Purity specification of recycled R-12 refrigerant supplied in containers from other recycle sources, for service of mobile air-conditioning systems, shall meet ARI Standard 700-88 (Air Conditioning and Refrigeration Institute).

6. OPERATION OF THE RECYCLE EQUIPMENT:

This shall be done in accordance with SAE J1989.