Environmental Protection Agency

APPENDIX C TO SUBPART G OF PART 82—
SUBSTITUTES SUBJECT TO USE RE-
STRICTIONS AND UNACCEPTABLE SUB-
STITUTES LISTED IN THE MAY 22, 1996
FINAL RULE, EFFECTIVE JUNE 21,
1996

REFRIGERATION AND AIR CONDITIONING SEC-
TOR—ACCEPTABLE SUBJECT TO USE CONDI-
TIONS

HCFC Blend Delta and Blend Zeta are ac-
ceptable subject to the following conditions
when used to retrofit a CFC-12 motor vehicle
air conditioning system:
1. Each refrigerant may only be used with
a set of fittings that is unique to that refrig-
erant. These fittings (male or female, as ap-
propriate) must be used with all containers
of the refrigerant, on can taps, on recovery,
recycling, and charging equipment, and on
all air conditioning system service ports.
These fittings must be designed to mechani-
cally prevent cross-charging with another re-
frigerant. A refrigerant may only be used
with the fittings and can taps specifically in-
tended for that refrigerant. Using an adapter
or deliberately modifying a fitting to use a
different refrigerant will be a violation of
this use condition. In addition, fittings shall
meet the following criteria, derived from So-
ciety of Automotive Engineers (SAE) stand-
ards and recommended practices:
   a. When existing CFC-12 service ports are
      to be retrofitted, conversion assemblies shall
      attach to the CFC-12 fitting with a thread
      lock adhesive and/or a separate mechanical
      latching mechanism in a manner that per-
      manently prevents the assembly from being
      removed.
   b. All conversion assemblies and new serv-
      ice ports must satisfy the vibration testing
      requirements of sections 3.2.1 or 3.2.2 of SAE
      J1669, as applicable, excluding references to
      SAE J639 and SAE J2064, which are specific
to HCFC-134a.
   c. In order to prevent discharge of refrig-
      erant to the atmosphere, systems shall have
      a device to limit compressor operation be-
      fore the pressure relief device will vent re-
frigerant. This requirement is waived for
systems that do not feature such a pressure
relief device.
   d. All CFC-12 service ports not retrofitted
      with conversion assemblies shall be rendered
      permanently incompatible for use with CFC-
      12 related service equipment by fitting with a
device attached with a thread lock adhe-
      sive and/or a separate mechanical latching
      mechanism in a manner that prevents the
      device from being removed.
2. When a retrofit is performed, a label
must be used as follows:
   a. The person conducting the retrofit must
      apply a label to the air conditioning system
      in the engine compartment that contains the
      following information:
      i. The name and address of the technician
         and the company performing the retrofit.
      ii. The date of the retrofit.
      iii. The trade name, charge amount, and, when
          applicable, the ASHRAE refrigerant
          numerical designation of the refrigerant.
      iv. The type, manufacturer, and amount of
          lubricant used.
      v. If the refrigerant is or contains an
         ozone-depleting substance, the phrase “ozone
deleter.”
      vi. If the refrigerant displays flammability
         limits as measured according to ASTM E681,
         the statement “This refrigerant is FLAM-
         MABLE. Take appropriate precautions.”
   b. This label must be large enough to be
      easily read and must be permanent.
   c. The background color must be unique to
      the refrigerant.
   d. The label must be affixed to the system
      over information related to the previous re-
      frigerant, in a location not normally re-
      placed during vehicle repair.
   e. Information on the previous refrigerant
      that cannot be covered by the new label
      must be permanently rendered unreadable.
3. No substitute refrigerant may be used to
   “top-off” a system that uses another refrig-
   erant. The original refrigerant must be re-
   covered in accordance with regulations
   issued under section 609 of the CAA prior to
   charging with a substitute.

SOLVENT CLEANING SECTOR—PROPOSED ACCEPTABLE SUBJECT TO USE CONDITIONS SUBSTITUTES

<table>
<thead>
<tr>
<th>Application</th>
<th>Substitute</th>
<th>Decision</th>
<th>Conditions</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metals Cleaning with CFC-113, MCF and HCFC-141b</td>
<td>Monochlorotoluene-s and benzotrifluorides.</td>
<td>Acceptable ....</td>
<td>Subject to a 50 ppm workplace standard for monochlorotoluenes and a 25 ppm standard for benzotrifluorides.</td>
<td>The workplace standard for monochlorotoluenes is based on an OSHA PEL of 50 ppm for orthochlorotoluene. The workplace standard for benzotrifluorides is based on a recent toxicology study.</td>
</tr>
<tr>
<td>Electronics Cleaning w/ CFC-113, MCF and HCFC-141b</td>
<td>Monochlorotoluene-s and benzotrifluorides.</td>
<td>Acceptable ....</td>
<td>Subject to a 50 ppm workplace standard for monochlorotoluenes and a 25 ppm standard for benzotrifluorides.</td>
<td>The workplace standard for monochlorotoluenes is based on an OSHA PEL of 50 ppm for orthochlorotoluene. The workplace standard for benzotrifluorides is based on a recent toxicology study.</td>
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## SOLVENT CLEANING SECTOR—PROPOSED ACCEPTABLE SUBJECT TO USE CONDITIONS

### SUBSTITUTES—Continued

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<tr>
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<th>Conditions</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precision Cleaning w/ CFC-113, MCF and HCFC-141b.</td>
<td>Monochlorotoluenes and benzotrifluorides.</td>
<td>Acceptable ....</td>
<td>Subject to a 50 ppm workplace standard for monochlorotoluenes and a 25 ppm standard for benzotrifluorides.</td>
<td>The workplace standard for monochlorotoluenes is based on an OSHA PEL of 50 ppm for orthochlorotoluene. The workplace standard for benzotrifluorides is based on a recent toxicology study.</td>
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### ACCEPTABLE SUBJECT TO NARROWED USE LIMITS: STREAMING AGENTS

<table>
<thead>
<tr>
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<th>Decision</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Halon 1211</td>
<td>CF1</td>
<td>Acceptable in non-residential uses only.</td>
<td></td>
</tr>
</tbody>
</table>

## AEROSOLS—PROPOSED ACCEPTABLE SUBJECT TO USE CONDITIONS SUBSTITUTES

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</tr>
</thead>
<tbody>
<tr>
<td>CFC-113, MCF and HCFC-141b as solvent.</td>
<td>Monochlorotoluenes and benzotrifluorides.</td>
<td>Acceptable ....</td>
<td>Subject to a 50 ppm workplace standard for monochlorotoluenes and a 25 ppm standard for benzotrifluorides.</td>
<td>The workplace standard for monochlorotoluenes is based on an OSHA PEL of 50 ppm for orthochlorotoluene. The workplace standard for benzotrifluorides is based on a recent toxicology study.</td>
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## ADHESIVES, COATINGS AND INKS—PROPOSED ACCEPTABLE SUBJECT TO USE CONDITIONS SUBSTITUTES

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<tr>
<td>CFC-113, MCF and HCFC-141b.</td>
<td>Monochlorotoluenes and benzotrifluorides.</td>
<td>Acceptable ....</td>
<td>Subject to a 50 ppm workplace standard for monochlorotoluenes and a 25 ppm standard for benzotrifluorides.</td>
<td>The workplace standard for monochlorotoluenes is based on an OSHA PEL of 50 ppm for orthochlorotoluene. The workplace standard for benzotrifluorides is based on a recent toxicology study.</td>
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**Effective Date Note:** At 61 FR 25592, May 22, 1996, Appendix C to Part 82 Subpart G was added. This appendix contains information collection and recordkeeping requirements which will not become effective until approval has been given by the Office of Management and Budget.

## APPENDIX D TO SUBPART G OF PART 82—SUBSTITUTES SUBJECT TO USE RESTRICTIONS AND UNACCEPTABLE SUBSTITUTES

### Summary of Decisions

**Refrigeration and Air Conditioning Sector**

Acceptable Subject to Use Conditions

- R-406A/"GHG"/"McCool", "GHG-HP", "GHG-X4"/"Auto Frost"/"Chill-It", and "Hot Shot"/"Kar Kool" are acceptable substitutes for CFC-12 in retrofitted motor vehicle air conditioning systems (MVACS) subject to the use condition that a retrofit to these refrigerants must include replacing non-barrier hoses with barrier hoses.

For all refrigerants submitted for use in motor vehicle air conditioning systems, subsequent to the effective date of this FRM, in addition to the information previously required in the March 18, 1994 final SNAP rule (58 FR 13944), SNAP submissions must include specifications for the fittings similar to those found in SAE J639, samples of all fittings, and the detailed label described below at the same time as the initial SNAP submission, or the submission will be considered incomplete. Under section 612 of the