DOT-E 12534

EXPIRATION DATE: November 30, 2002

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: MODcol Corporation
   Sunnyvale, California

2. PURPOSE AND LIMITATIONS:
   a. This exemption authorizes the manufacture, marking, sale
      and use of a non-DOT specification combination packaging for
      the transportation in commerce of the materials authorized
      by this exemption. This exemption provides no relief from
      the Hazardous Materials Regulations (HMR) other than as
      specifically stated herein.
   b. The safety analyses performed in development of this
      exemption only considered the hazards and risks associated
      with transportation in commerce. The safety analyses did
      not consider the hazards and risks associated with use not
      associated with transportation in commerce.


4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 173.202(b) in
   that a non-DOT specification combination packaging is not
   authorized, except as specified herein.

5. BASIS: This exemption is based on the application of MODcol
   Corporation dated July 24, 2000, submitted in accordance
   with § 107.105 and the public proceeding thereon.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

<table>
<thead>
<tr>
<th>Proper Shipping Name/ Hazardous Material Description</th>
<th>Hazard Class/ Division</th>
<th>Identification Number</th>
<th>Packing Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methanol</td>
<td>3</td>
<td>UN1230</td>
<td>II</td>
</tr>
<tr>
<td>Acetonitrile</td>
<td>3</td>
<td>UN1648</td>
<td>II</td>
</tr>
<tr>
<td>Hexanes</td>
<td>3</td>
<td>UN1208</td>
<td>II</td>
</tr>
</tbody>
</table>
7. **SAFETY CONTROL MEASURES:**

a. **PACKAGING** - Packaging prescribed is a non-DOT specification combination package consisting of a non-DOT specification plywood or fiberboard box as an outer packaging and a non-DOT specification "Flanged Chromatography Column" (flanged column) as an inner packaging. The flanged column is fabricated from type 316 stainless steel which is closed by a bolted flange on each end. Design pressure of the flanged column must be at least 2000 psig. Packaging must conform to drawings and specifications of MODcol Corporation on file with the Office of Hazardous Materials Exemptions and Approvals (OHMEA).

b. **TESTING** - Each flanged column must be leak tested at 2,000 psig at time of fabrication.

c. **OPERATIONAL CONTROLS:**

(1) The volume of the flanged column may not exceed 5 liters.

(2) Internal pressure during transportation may not exceed 20 psig.

8. **SPECIAL PROVISIONS:**

a. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this exemption for the transportation of the hazardous materials specified in paragraph 6, only in conformance with the terms of this exemption.

b. A person who is not a holder of this exemption, but receives a package covered by this exemption, may reoffer it for transportation provided no modification or change is made to the package or its contents and it is offered for transportation in conformance with this exemption and the HMR.

c. A current copy of this exemption must be maintained at each facility where the package is offered or reoffered for transportation.
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d. Each packaging manufactured under the authority of this exemption must be either (1) marked with the name of the manufacturer and location (city and state) of the facility at which it is manufactured or (2) marked with a registration symbol designated by the OHMRA for a specific manufacturing facility.

e. A current copy of this exemption must be maintained at each facility where the package is manufactured under this exemption. It must be made available to a DOT representative upon request.

f. MARKING - Each flanged column and outer plywood or fiberboard box must be plainly and durably marked "DOT-E 12534" as specified in § 172.301(c).

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel and cargo aircraft only.

10. MODAL REQUIREMENTS: A current copy of this exemption must be carried aboard each cargo vessel, aircraft or motor vehicle used to transport packages covered by this exemption. The shipper must furnish a current copy of this exemption to the air carrier before or at the time the shipment is tendered.

11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this exemption and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:

   o All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, Parts 171-180.

   o Registration required by § 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this exemption must receive training on the requirements and conditions of this exemption in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this exemption, including display of its number, when this exemption has expired or is otherwise no longer in effect.
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12. **REPORTING REQUIREMENTS**: The carrier is required to report any incident involving loss of packaging contents or packaging failure to the Associate Administrator for Hazardous Materials Safety (AAHMS) as soon as practicable. (Sections 171.15 and 171.16 apply to any activity undertaken under the authority of this exemption.) In addition, the holder(s) of this exemption must also inform the AAHMS, in writing, as soon as practicable of any incidents involving the package and shipments made under this exemption.

Issued in Washington, D.C.

[Signature]

Robert A. McGuire
Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Research and Special Programs Administration, Department of Transportation, Washington, D.C. 20590. Attention: DHM-31.

The original of this exemption is on file at the above office. Photo reproductions and legible reductions of this exemption are permitted. Any alteration of this exemption is prohibited.

Copies of exemptions may be obtained from the AAHMS, U.S. Department of Transportation, 400 7th Street, S.W., Washington, DC 20590-0001, Attention: Records Center, 202-366-5046.

PO: PTOlson