1. GRANTEE: (See individual authorization letter)

2. PURPOSE AND LIMITATION:

   a. This special permit authorizes the transportation in commerce of certain compressed gases in DOT specification 3AL cylinders. This special permit provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein. The most recent revision supersedes all previous revisions.

   b. The safety analyses performed in development of this special permit only considered the hazards and risks associated with transportation in commerce.

   c. Unless otherwise stated herein, this special permit consists of the special permit authorization letter issued to the grantee together with this document.


4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 173.304a(a)(1) in that DOT 3AL specification cylinders are not authorized for the materials listed in paragraph 6, except as specified herein.

5. BASIS: This special permit is based on the Pipeline and Hazardous Materials Safety Administration’s (PHMSA) editorial review under § 107.121 initiated on December 4, 2008.
6. HAZARDOUS MATERIALS (49 CFR § 172.101):

<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>Hazard Class/Division</th>
<th>Identification Number</th>
<th>Packing Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hexafluoroethane, compressed or Refrigerant, gas R116</td>
<td>2.2</td>
<td>UN2193</td>
<td>N/A</td>
</tr>
<tr>
<td>Trifloromethane or Refrigerant gas, R23</td>
<td>2.2</td>
<td>UN1984</td>
<td>N/A</td>
</tr>
</tbody>
</table>

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packagings prescribed are DOT Specification 3AL cylinders. The liquid portion of trifluoromethane may completely fill the cylinder at or below 130°F, provided the pressure at the critical temperature does not exceed one and one-fourth times the service pressure.

Minimum cylinder service pressures and maximum filling densities are as follows:

<table>
<thead>
<tr>
<th></th>
<th>Trifluoromethane</th>
<th>Hexafluoroethane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylinder service pressure</td>
<td>1800</td>
<td>1800</td>
</tr>
<tr>
<td>Maximum filling density (%)</td>
<td>84.4</td>
<td>112.0</td>
</tr>
<tr>
<td>Pressure at 70°F(psig)</td>
<td>605</td>
<td>970</td>
</tr>
<tr>
<td>Pressure at 130°F(psig)</td>
<td>2045</td>
<td>2240</td>
</tr>
</tbody>
</table>

8. SPECIAL PROVISIONS:

a. A person who is not a holder of this special permit who receives a package covered by this special permit may reoffer it for transportation provided no modification or change is made to the package and it is reoffered for transportation in conformance with this special permit and the HMR.
Continuation of DOT-SP 9491 (8th Rev.)

b. A current copy of this special permit must be maintained at each facility where the package is offered or reoffered for transportation.

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

10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each cargo vessel, aircraft or motor vehicle used to transport packages covered by this special permit. The shipper must furnish a current copy of this special permit 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 special permit and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:

- All terms and conditions prescribed in this special permit and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
- Persons operating under the terms of this special permit must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
- Registration required by § 107.601 et seq., when applicable.

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

No person may use or apply this special permit, including display of its number, when this special permit has expired or is otherwise no longer in effect.

December 3, 2009

"exemption" to "special permit" and authorizes a special permit to be granted up to two years for new special permits and up to four years for renewals.

12. REPORTING REQUIREMENTS: Shipments or operations conducted under this special permit are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR §§ 171.15 - Immediate notice of certain hazardous materials incidents, and 171.16 - Detailed hazardous materials incident reports. In addition, the grantee(s) of this special permit must notify the Associate Administrator for Hazardous Materials Safety -- OHMSPA, in writing, of any incident involving a package, shipment or operation conducted under terms of this special permit.

Issued in Washington, D.C.:


for Dr. Magdy El-Sibaie
Acting Associate Administrator for Hazardous Materials Safety

Copies of this special permit may be obtained by accessing the Hazardous Materials Safety Homepage at http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm
Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: KFW/dl/sln