U.S. Department
of Transportation

**Research and
Special Programs
Administration**

400 Seventh Street, S.W.
Washington, D.C. 20590

DEC 23 1996

DOT-E 11619
(FIRST REVISION)

EXPIRATION DATE: July 15, 1998

(FOR RENEWAL, SEE 49 CFR SECTION 107.109)

1. GRANTEE: University of New Hampshire, Durham, New Hampshire

   See Appendix A to this document for a list of additional grantees)

2. a. PURPOSE AND LIMITATION: This exemption authorizes the transportation in commerce of certain non-DOT specification cylinders containing Isobutane, which are part of the Solar Energetic Particle Ionic Charge Analyzer (SEPICA). This exemption provides no relief from any regulation other than as specifically stated herein.

   b. EXEMPTION SCOPE LIMITATIONS - An exemption authorization to manufacture, mark, sell, and transport only represents certification of safety for a package when it is an article of commerce in transportation. 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 as a component of a transport vehicle or other device, or other uses not associated with transportation in commerce.

3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.

4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR Part 173.304(a) in that the prescribed cylinder is not listed as an authorized packaging.

5. BASIS: This exemption is based on the application of the University of New Hampshire dated December 18, 1995 and additional information dated July 17, 1996, submitted in accordance with 49 CFR 107.103 and the public proceeding thereon.

6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous materials description -- proper shipping name	Hazard Class/ Division	Identi-fication Number	Packing Group
Isobutane	2.1	UN1969	N/A

7. PACKAGING AND SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is the SEPICA tank, a 2.3 liter capacity non-DOT specification cylinder. The tank is an aluminum lined, carbon fiber composite cylinder with a maximum service pressure of 134 psig. The tank must, as a minimum, meet the requirements of MIL-STD-1552A and "The Department of the Air Force Interim Safety Requirements for Composite Overwrapped Pressure Vessels. The tank must be designed in accordance with the "Leak Before Burst" criteria as specified in MIL-STD-1552A. The tank is not equipped with a pressure relief device. The maximum filling density is 47 percent.

b. The cylinder may not be refilled.

c. The prescribed tank may be shipped individually, within the SEPICA instrument, or within the SEPICA instrument installed on the NASA ACE Spacecraft. Unless the tank is installed on the spacecraft, it must be packaged in ZERO polyethylene transitainers.

d. TESTING - Before shipment, each tank must be pressure tested to 250 psig and helium leak tested to 160 psig.

8. SPECIAL PROVISIONS:

a. Persons who receive the packages covered by this exemption may reoffer them for transportation provided no modifications or changes are made to the packages, all terms of this exemption are complied with and a current copy of this exemption is maintained at each facility from which such reoffering occurs.

b. Shippers using the packaging covered by this exemption must comply with all provisions of this exemption, and all other applicable requirements contained in 49 CFR Parts 171-180.

c. Transportation is authorized only to and from the destinations listed in Attachment 6 of the University of New Hampshire's application for exemption.

d. MARKING - Each outside package must be marked "DOT-E11619".

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle.

10. MODAL REQUIREMENTS:

A copy of this exemption must be carried aboard each motor vehicle used to transport packages covered by this exemption.

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. Section 5101 et seq:

- All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
- Registration required by 49 CFR 107.601 et seq., when applicable.

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

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. (49 CFR 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 inform the AAHMS, in writing, of any incidents involving the package and shipments made under the terms of this exemption.

Issued at Washington, D.C.:

Marilyn E. Morris

for Alan I. Roberts
Associate Administrator
for Hazardous Materials Safety

December 23, 1996
(DATE)

DEC 23 1996

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.

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