U.S. Department
of Transportation

Research and
Special Programs
Administration

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

JUL 6 1988

DOT-E 9976

1. National Aeronautics and Space Administration (NASA), Washington, DC, is hereby granted an exemption from certain provisions of this Department's Hazardous Materials Regulations to offer packages prescribed herein of the hazardous materials described in paragraph 3 below for transportation in commerce, subject to the limitations and special requirements specified herein. This exemption authorizes shipment of anhydrous ammonia in nonrefillable, non-DOT specification containers, and provides no relief from any regulation other than as specifically stated.

2. BASIS. This exemption is based on NASA's applications dated April 12, and April 29, 1988, submitted in accordance with 49 CFR 107.103 and the public proceeding thereon.

3. HAZARDOUS MATERIALS (Descriptor and class). Anhydrous ammonia classed as a nonflammable gas.

4. PROPER SHIPPING NAME (49 CFR 172.101). Ammonia, anhydrous.

5. REGULATION AFFECTED. 49 CFR 173.304(a)(2), 175.3.

6. MODES OF TRANSPORTATION AUTHORIZED. Motor vehicle and cargo aircraft only.

7. SAFETY CONTROL MEASURES. Packaging prescribed is a nonrefillable, non-DOT specification container described as variable conductance heat pipes (VCHP) and fixed conductance heat pipes (FCHP) consisting of several panels having a network of heat pipes. Each heat pipe must be make of type 304L stainless steel. The system must conform with TRW drawings 138242 Rev 0, 138120 Rev B, 138100 Rev 0, on file with the Office of Hazardous Materials Transportation (OHMT). The VCHP and FCHP are overpacked in wooden shipping crates conforming with MIL-B-26195B and TRW sketches SK GW 6844 Rev 0, SK GW 6845 Rev 0, SK GW 6846 Rev 0, SK GW 6847 Rev 0, AND SK GW 6848 Rev 0,.

a. Total capacity is 365 cubic inches for VCHP and 73 cubic inches for FCHP. Maximum amount of ammonia is 1.81 pounds for VCHP, 0.56 pounds for the FCHP. Maximum operating pressure for each heat pipe is 300 psig at 125 °F. Each heat pipe must be proof tested to 3 times operating pressure. Design burst pressure 8 times operating pressure. Designs must be qualified by testing at least 2 representative samples prior to initial shipment.

8. SPECIAL PROVISIONS.

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

b. Persons who receive packages covered by this exemption may reship them pursuant to the provisions of 49 CFR 173.22a.

c. For highway transportation, each motor carrier used to transport packagings authorized under this exemption must have a safety rating, as assigned by the Office of Motor Carrier Safety Field Operations (OMCSFO), Federal Highway Administration, of "Satisfactory".

9. REPORTING REQUIREMENTS. Any incident involving loss of contents of the package or damage to the packaging must be reported to the OHMT as soon as practicable.

10. EXPIRATION DATE. June 30, 1990.

Issued at Washington D.C.:

Elaine Economides Joost

Alan I. Roberts
Deputy Director
Office of Hazardous Materials Transportation

JUL 6 1988
(Date)

Address all inquiries to: Director, Office of Hazardous Materials Transportation, Research and Special Programs Administration, U.S. Department of Transportation, Washington, D.C. 20590. Attention: Exemptions Branch.

Dist: FHWA, FAA.