MAY 11 1999

U.S. Department of Transportation
Research and Special Programs Administration

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

DOT-E 12219
(THIRD REVISION)

EXPIRATION DATE: April 30, 2001

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: TRW Space and Electronics Group
Redondo Beach, CA

2. PURPOSE AND LIMITATION:

a. This exemption authorizes the transportation in commerce of certain non-DOT specification refrigeration systems described as pulse tube coolers containing helium. This exemption provides no relief from any Hazardous Materials Regulation (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 as a component of another 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 §§ 173.302 and 175.3 in that the refrigeration system is not an authorized packaging.

5. BASIS: This exemption is based on the application of TRW Space and Electronics Group dated February 18, 1999, and additional information dated February 25 and March 2, 1999 and letter of support from the National Aeronautics and Space Administration dated March 4, 1999, submitted in accordance with § 107.105 and the public proceeding thereon. Subsequent letters dated March 18 and April 21, 1999 were also submitted.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Proper Shipping Name/ Hazardous Materials Description	Hazard Class/ Division	Identi-fication Number	Packing Group
Helium, compressed	2.2	UN1046	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a non-DOT specification, non-refillable, hermetically sealed, refrigeration system described as a pulse tube cooler (PTC). The PTC is not equipped with a pressure relief device. In the event of extreme temperatures, the PTC is designed to relieve pressure through its seals to prevent bursting. The PTC must conform with TRW drawing #C453675 on file with the Office of Hazardous Materials Exemptions and Approvals (OHMEA). The PTC must be designed and tested in conformance with MIL-STD 1522. The material of construction is aluminum alloy 2219. The PTC must conform with the following:

Maximum service pressure (maximum expected operating pressure):	400 psig
Minimum design burst pressure:	1600 psig
Maximum volume:	950 cc

b. TESTING - Each pulse tube cooler must be proof pressure tested to at least 600 psig before shipment.

c. OPERATIONAL CONTROLS -

(1) The pulse tube cooler must be shipped inside a strong, foam-filled, plastic shipping container in conformance with Hardigg drawing #1413-0505 on file with the OHMEA.

(2) Emergency response information provided with the shipment and available via an emergency response telephone number must indicate that the pulse tube coolers are not fitted with pressure relief devices and must provide appropriate guidance in the event of fire.

8. SPECIAL PROVISIONS:

a. A person who is not a holder of this exemption who receives a package covered by this exemption may reoffer it for transportation provided no modifications or changes are made to the package and it is reoffered for transportation in conformance with this exemption and the HMR.

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

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, cargo aircraft only, and passenger-carrying aircraft (see § 175.85(a).

10. MODAL REQUIREMENTS: A current copy of this exemption must be carried aboard each aircraft or motor vehicle used to transport packages covered by this exemption. The shipper must furnish a 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:

- All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, 49 CFR Parts 171-180.

- 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 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. (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 inform the AAHMS, in writing, of any incident involving the package and shipments made under the terms of this exemption.

Issued at Washington, D.C.:

for Alan I. Roberts
Associate Administrator for
Hazardous Materials Safety

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(DATE)

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.

Dist: FAA, FHWA
PO: CWF/am