U.S. Department
of Transportation

**Research and
Special Programs
Administration**

DEC 29 1995

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

DOT-E 9848
(SECOND REVISION)

EXPIRATION DATE: October 31, 1997

(FOR RENEWAL, SEE 49 CFR SECTION 107.105)

1. GRANTEE: United Technologies Corporation
Hamilton Standard Division
Windsor Locks, CT

2. PURPOSE AND LIMITATION: This exemption authorizes the transportation in commerce of nitrogen, supplied during transportation by a DOT Specification 3AA cylinder with its valve open, to a non-DOT specification container described as an electrolysis module. This exemption provides no relief from any regulation other than as specifically stated herein.

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

4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR 173.24, in that the package is not closed in transportation, 173.302(a) in that a non-DOT specification packaging in used.

5. BASIS: This exemption is based on the application of United Technologies' Hamilton Standard Division dated September 28, 1995, submitted in accordance with 49 CFR 107.105.

6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous materials description -- proper shipping name	Hazard Class/ Division	Identi- fication Number	Packing Group
Nitrogen, compressed	2.2	UN1066	n/a

7. PACKAGING AND SAFETY CONTROL MEASURES: Packaging prescribed is a nonrefillable, non-DOT specification packaging described as an electrolysis module (ES1381 SPE[R] Electrolysis System), which consists of 1 ft.^{2} electrolysis cells and a butyl rubber bladder stacked in a bipolar filter press arrangement and a DOT specification 3AA 2015 cylinder with its valve open during transportation. The electrolysis module must conform with General Electric's drawing numbers SVSK111048, Rev 0, SVSK111043 Rev 0, SVSK111039 Rev 0, and SVSK113316 Rev 0 submitted with the application on file with the Office of Hazardous Materials Exemptions and Approvals. The butyl rubber bladder is fitted with a pressure relief valve set to relieve at 325 psig. A pressure regulator limits the pressure from the nitrogen cylinder to the bladder at 300 psig. Piping and fittings for the module are rated at not less than 1600 psig.

   a. Maximum internal volume of the butyl rubber bladder is 51.8 cubic inches (0.03 cubic feet). Maximum internal volume of the nitrogen cylinder is 138 cubic inches (0.08 cubic feet). Maximum operating pressure between cylinder regulator and butyl rubber bladder is 300 psig at 70°F. The nitrogen is contained in a DOT 3AA 2015 cylinder charged to 1800 psig. A 0.25 inch O.D. stainless steel tube rated at 3000 psig connects the regulator to the module bladder.

   b. Each electrolysis module must be rigidly mounted inside a strong outside wooden container capable of protecting the module and cylinder and withstanding a four foot drop test.

8. SPECIAL PROVISIONS: The shipper must comply with all provisions of this exemption, and all other applicable requirements contained in 49 CFR Parts 171-180.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle and cargo vessel.

10. MODAL REQUIREMENTS:

A copy of this exemption must be carried aboard each cargo vessel and 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.:

DEC 29 1995

Suzanne Hedgepeth

Alan I. Roberts
Associate Administrator
for Hazardous Materials Safety

(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.

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