

March 1, 2004



U.S. Department  
of Transportation

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

**Research and  
Special Programs  
Administration**

DOT-E 10814  
(SEVENTH REVISION)

EXPIRATION DATE: January 31, 2006

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Lorad (A Hologic Company)  
Danbury, CT  
(Former Grantee: Trex Medical Corporation)  
Lorad Division
2. PURPOSE AND LIMITATIONS:
  - a. This exemption authorizes the manufacture, mark, sale and use of the packaging described in paragraph 7 below for use in the transportation of sulfur hexafluoride. This exemption provides no relief from the Hazardous Materials Regulations (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.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 173.302(a) and 175.3 in that non-DOT specification packaging is not authorized, except as specified herein.
5. BASIS: This exemption is based on the application of Lorad, A Hologic Company, dated December 16, 2003, submitted in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Proper Shipping Name/ Hazardous Materials Description	Hazard Class/ Division	Identi- fication Number	Packing Group
Sulfur hexafluoride	2.2	UN1080	N/A

7. SAFETY CONTROL MEASURES:

PACKAGING. Prescribed packaging is Lorad Corporation's industrial X-ray instrumentation, consisting of a cathode ray (X-Ray) tube and other instrumentation assembled in a 6063-T6 schedule 5 aluminum alloy container with an outside diameter of 6.625 inches, a wall thickness of 0.109 inch, with bolted end plates, filled with sulfur hexafluoride gas. The assembly has Lorad Corporation's Part Number 3-000A-0735, National Stock Number 6635-01-344-6403. Each container must be manufactured in accordance with Lorad's drawings 3-000A-0736 Rev. 4, dated June 25, 1992; 3-645A-0064 Rev. 3 dated June 19, 1992, associated drawings and other information on file with the Office of Hazardous Materials Exemptions and Approvals (OHMEA) and in accordance with the following requirements:

- a. Each container must be capable of withstanding a burst pressure of not less than 600 psig.
- b. Each container, with end plates assembled in place and prior to cathode-ray unit assembly, must be pressure tested to at least 300 psig.
- c. No unit may be charged with sulfur hexafluoride to a pressure exceeding 50 psig at 70°F. Each unit must be equipped with a safety relief device designed to function at 85 psig.
- d. Each unit must be checked for leaks prior to shipment.
- e. When overpacked as follows, the X-ray instrumentation units are exempt from labeling, except when offered for transportation by air:

(1) in a strong wooden package as shown in Lorad's drawing # 9-600A-0014 dated June 23, 1992, on file with OHMEA; or

(2) in a ruggedized style "T" transit container conforming to MIL-T-28800 and as shown on Lorad's drawing # 2-630-0025 dated February 16, 1996, on file with OHMEA. The transit cases will be further packaged in a master carton and skid per Lorad's drawing 2-630-0030 dated February 16, 1996, on file with OHMEA.

8. SPECIAL PROVISIONS:

a. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this exemption for the transportation of the hazardous materials specified in paragraph 6, only in conformance with the terms of this exemption.

b. A person who is not a holder of this exemption, but 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 offered for transportation in conformance with this exemption and the HMR.

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

d. Each packaging manufactured under the authority of this exemption must be either (1) marked with the name of the manufacturer and location (city and state) of the facility at which it is manufactured or (2) marked with a registration symbol designated by the Office of Hazardous Materials Exemptions and Approvals for a specific manufacturing facility.

e. A current copy of this exemption must be maintained at each facility where the package is manufactured under this exemption. It must be made available to a DOT representative upon request.

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 exemption must be carried aboard each cargo vessel or aircraft 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:
  - o All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
  - o Persons operating under the terms of this exemption must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
  - o 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 this 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 also inform the AAHMS, in writing, as soon as practicable of any incidents involving the package and shipments made under this exemption.

Issued in Washington, D.C.



for Robert A. McGuire  
Associate Administrator for  
Hazardous Materials Safety

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.

Copies of this exemption may be obtained by accessing the  
Hazardous Materials Safety Homepage at  
<http://hazmat.dot.gov/exemptions> Photo reproductions and  
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