U.S. Department
of Transportation

**Research and
Special Programs
Administration**

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

APR 14 2000

DOT-E 12093
(SECOND REVISION)

EXPIRATION DATE: **April 1, 2002**

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Dynatherm Corporation, Inc.
Hunt Valley, MD

2. PURPOSE AND LIMITATION:

a. This exemption authorizes the transportation in commerce of certain non-DOT specification containers containing Division 2.1, 2.2 and 2.3 liquefied and compressed gases. 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 hazard 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 § 173.34(d) in that the containers are not fitted with pressure relief devices; §§ 173.302(a)(1), 173.304(a)(2) and 175.3 in that non-DOT specification packagings are authorized.

5. BASIS: This exemption is based on the application of Dynatherm Corporation Inc. dated September 22, 1999, submitted in accordance with 49 CFR 107.105 and the public proceeding thereon and renewal application dated April 6, 2000.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Proper Shipping Name/ Hazardous Materials Description	Hazard Class/ Division	Identification Number
Ammonia, anhydrous, liquefied	2.2*	UN1005
Ethane, compressed	2.1	UN1035
Methane, compressed	2.1	UN1971
Nitrogen, compressed	2.2	UN1066
Nitrogen Trifluoride	2.2*	UN2451
Propane	2.1	UN1978
Propylene	2.1	UN1077

*For international transportation, this material is classed as Division 2.3.

7. PACKAGING AND SAFETY CONTROL MEASURES:

a. PACKAGING - Packagings prescribed are non-DOT specification containers which are packed in foam cushioning and overpacked in a DOT Specification UN 4C or UN 4D wood box or non-DOT specification wooden box meeting the material requirements of § 178.513(b)(1) and (2) or § 178.514(b)(1). The pressure in the containers during transportation may not exceed 370 psig at 130°F. The burst pressure of the non-DOT specification container must be at least 4 times the vapor pressure of the lading at 130°F. Packaging must be in accordance with drawings and specifications provided in the application on file with the Office of Hazardous Materials Exemptions and Approvals (OHMEA). The three (3) designs of non-DOT specification containers are without valves or pressure relief devices and are described as follows:

(1) Heat pipes or variable conductance heat pipes, constructed of axially grooved tubing (aluminum alloy 6063 or 300 series stainless steel or combination thereof) with an end cap and fill tube welded to opposing ends, not exceeding 4 liters in volume.

(2) Capillary pumped loops constructed of 6061-T6 or 6063-T6 aluminum or 300 series stainless steel or combination thereof, not exceeding 144 inches in length and 84 inches wide, and not exceeding 4 liters in volume.

(3) Reservoirs constructed of 6061-T6 or 6063-T6 aluminum or 300 series stainless steel, not to exceed 4 liters in volume. The maximum size of the reservoir is 6 inches in diameter and 24 inches in length.

b. TESTING - Following the procedures on file with OHMEA, each non-DOT specification container must be pneumatically tested to a pressure 1.5 times the vapor pressure of the lading at 100°C, but not less than 1400 psig, without failure. Welds must be liquid penetrant inspected to ASTM standard E1417-99.

c. OPERATIONAL CONTROLS:

(1) Non-DOT specification containers may not contain more than 2.5 pounds of anhydrous ammonia.

(2) Emergency response information provided with the shipment and available via an emergency response telephone number must indicate that the non specification containers are not fitted with pressure relief devices and must provide appropriate guidance in the event the non specification containers are exposed to fire.

(3) Stacking of boxes is prohibited during shipment.

(4) Non specification wooden boxes must be shipped by exclusive use motor vehicle.

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.

c. MARKING -

(1) The outer wooden box must be plainly and durably marked on two opposite sides on a contrasting background in letters at least two inches high, "DOT-E 12093" and "DO NOT STACK" as specified in § 172.301(c).

(2) Each non-DOT specification container must be marked with the design pressure and pneumatic test pressure.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle and cargo aircraft only.

10. MODAL REQUIREMENTS: A current copy of this exemption must be carried aboard each aircraft and motor vehicle used to transport packages covered by this exemption. The shipper shall 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 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 inform the AAHMS, in writing, of any incident involving the package and shipments made under the terms of this exemption.

Issued in Washington, D.C.:

APR 14 2000

Robert A. McGuire
Acting 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.

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: FHWA, FAA
PO: S.Staniszewski