U.S. Department
of Transportation

**Research and
Special Programs
Administration**

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

**DOCKETS UNIT
(202)366-5046 BUS.
(202366-3753 FAX**

**CYLINDERS 3-AL
SEE LIST BELOW**

**D.O.T.E- 6498
7042
8107
8364
8422
6616
6668
8404**

**SEE SECTION 173.23
49 CFR CODE OF REGULATIONS**

§ 173.23 Previously authorized packaging.

(a) When the regulations specify a packaging with a specification marking prefix of "DOT," a packaging marked prior to January 1, 1970, with the prefix of "ICC" may be used in its place if the packaging otherwise conforms to applicable specification requirements.

(b) [Reserved]

(c) After July 2, 1982, a seamless aluminum cylinder manufactured in conformance with and for use under DOT exemption E 6498, E 7042, E 8107, E 8364, or E 8422, may be continued in use if marked before or at the time of the next retest with the specification identification "3AL" immediately above the exemption number, or the DOT mark (e.g., DOT 3AL 1800) is added in proximity to the exemption marking.

(d) Cylinders (spheres) manufactured and marked DOT-E 6616 prior to January 1, 1983, may be continued in use if marked before or at the time of the next retest with the specification identification "4BA" near the exemption marking.

(e) After October 1, 1984, cylinders manufactured for use under exemptions DOT E-6668 or E-8404 may be continued in use, and must be marked "DOT-4LXXXYY" (XXX to be replaced by the service pressure, YY to be replaced by the letters "AL", if applicable) in compliance with Specification 4L (§ 178.57 of this subchapter) on or before January 1, 1986. The "DOT-4LXXXYY" must appear in proximity to other required specification markings.

(f) An MC 331 cargo tank motor vehicle must conform to structural integrity requirements in § 178.337-3 or to corresponding requirements in effect at the time of manufacture.

(g) A non-bulk packaging manufactured, tested, marked, and certified on or before September 30, 1996, in accordance with the applicable provisions of subparts L and M of part 178 of this subchapter in effect on September 30, 1995, may be used as authorized by this subchapter if the packaging conforms to all requirements applicable at the time of manufacture. In addition, such a packaging may be reused as authorized by § 173.28 without a nominal thickness marking, if it conforms to the minimum thickness criteria prescribed in § 173.28(b)(4).

[Amdt. 173-3, 33 FR 14921, Oct. 4, 1968, as amended by Amdt. 173-94; 41 FR 16063, Apr. 15, 1976; Amdt. 173-152, 47 FR 26633, June 21, 1982; Amdt. 173-16, 48 FR 50460, Nov. 1, 1983; Amdt. 173-176, 49 FR 24689, June 14, 1984; Amdt. 173-180, 49 FR 42735, Oct. 24, 1984; Amdt. 173-224, 55 FR 52610, Dec. 21, 1990; 57 FR 45460, Oct. 1, 1992; Amdt. 173-240, 60 FR 17400, Apr. 5, 1995; Amdt. 173-242, 60 FR 26805, May 18, 1995]

DEPARTMENT OF TRANSPORTATION
RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION
WASHINGTON, D.C. 20590
DOT-E 8107

1. Billings Energy Corporation, Provo, Utah, is hereby granted an exemption from those provisions of this Department's Hazardous Materials Regulations specified in paragraph 5 below to manufacture, mark, and sell the packaging described in paragraph 7 below for use in the transportation of the hydrogen described in paragraph 3 below in commerce subject to the requirements specified herein. This exemption authorizes the use of DOT specification cylinders and certain cylinders covered by exemption to ship hydrogen in combination with iron-titanium alloy contained in the cylinders, and provides no relief from any regulation other than as specifically stated.

2. BASIS. This exemption is based on Billings Energy Corporation's application received November 8, 1978 and addendum dated November 29, 1978, submitted in accordance with 49 CFR 107.103 and the public proceeding thereon.

3. HAZARDOUS MATERIALS (Descriptor and class). Hydrogen, classed as flammable gas.

4. PROPER SHIPPING NAME (49 CFR 172.101). Hydrogen.

5. REGULATION AFFECTED. 173.302(a), 173.303 and 175.3.

6. MODES OF TRANSPORTATION AUTHORIZED. Motor vehicle, rail freight, cargo vessel and cargo-only aircraft, except that cylinders made from aluminum are not authorized for shipment by cargo vessel.

7. SAFETY CONTROL MEASURES. Packaging prescribed is specification cylinders DOT 3A, DOT 3AA, DOT 3AX, DOT 3AAX, DOT 3E and aluminum cylinders made in accordance with E-6498. All cylinders must be:

a. Made and marked for a service pressure of 2015 psig, except for the DOT 3E1800 cylinders.

b. Qualified, maintained and used as required by 49 CFR 173.34. The aluminum cylinders must meet the requirements applicable to DOT 3A or 3AA specification cylinders.

c. Marked with numbers and letters at least 3/8-inch high stating, "Cylinder pressure must not exceed 500 psig and cylinder temperature must not exceed 200° F. during normal use and filling operations." Such markings must be durable, water proof, easily read and located near the specification markings.

d. Equipped with a combination safety relief device utilizing a frangible disc blocked by a fusible metal plug. The fusible metal will have a nominal yield temperature of 212° F. and the frangible disc will have a bursting pressure rating of 1000 psig as specified in the application for exemption.

e. Filled to the loading density proposed in the application with the hydride initially hydrided external to the cylinder.