U.S. Department
of Transportation

**Research and
Special Programs
Administration**

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

MAY 7 2004

DOT-E 10370
(FIFTH REVISION)

EXPIRATION DATE: April 30, 2005

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Welker Engineering Company
Sugar Land, TX

2. PURPOSE AND LIMITATIONS:

a. This exemption authorizes the manufacture, mark, sale and use of non-DOT specification aluminum cylinders conforming with all regulations applicable to a DOT Specification 3E cylinder, except as specified herein, for the transportation in commerce of the materials authorized by this exemption. 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 §§ 173.201, 173.202, 173.203, 173.302a(a)(1), 173.304(a) and 175.3 in that non-DOT specification cylinders are not authorized, except as specified herein; and §§ 173.301(f)(2) and 177.840(a)(1) in that the pressure relief device on the product side of the cylinder is in contact with liquid product at all times.

5. BASIS: This exemption is based on the applications of Welker Engineering Company dated April 21 and April 25, 2003, submitted in accordance with § 107.109 and an additional letter dated February 3, 2004.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Proper Shipping Name/ Hazardous Material Description	Hazard Class/ Division	Identi-fication Number	Packing Group
Helium, compressed	2.2	UN1046	N/A
Hydrocarbon gases, liquefied, n.o.s., or Hydrocarbon gases mixtures, liquefied, n.o.s.	2.1	UN1965	N/A
Methane, compressed or Natural gas, compressed	2.1	UN1971	N/A
Nitrogen, compressed	2.2	UN1066	N/A
Petroleum crude oil	3	UN1267	I, II or III
Petroleum gases, liquefied	2.1	UN1075	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Prescribed packaging is an aluminum non-DOT specification cylinder having a marked service pressure of 600 psi, constructed from seamless aluminum tubing, with frangible disc type or resettable spring type pressure relief devices in each end. Each cylinder must conform with Welker Engineering sketches, photographs, drawings and calculations submitted with the application and on file with the Office of Hazardous Materials Exemptions and Approvals (OHMEA). Each cylinder must conform with the DOT Specification 3E (§§ 178.35 and 178.42), except as follows:

§ 178.35(e) *Safety devices.*

(added) Each head must be equipped with a pressure relief device.

§ 178.35(c) *Duties of inspector.*

(1) * * *
(2) Add

(iv) Verify chemical analysis of each heat of aluminum by analysis and check analysis of samples taken from one cylinder out of each lot of 200 or less completed cylinders.

(3) and (4) * * *

§ 178.35(g) *Inspector's report.*

(added) The inspectors report may be revised to accommodate the tests required by this exemption. A copy of the inspector's report on the first lot out of each design must be submitted to the OHMEA.

§ 178.42(a) *Type, size and service pressure.*

Seamless cylinder conforming with the following:

(1) Model CP-35 piston style receptacle has flat head on each end restrained with tie rods secured at each end by nuts or with tie rods threaded into an end cap and secured by nuts on the other end; maximum volume may not exceed 1,000 cc.

(2) Dimensions are as follows:

Model Nos.	Maximum O.D. x length	Minimum Side wall thickness
CP-35	2.0" x 29"	0.11"

(3) Service pressure must be 600 pounds per square inch.

§ 178.42(b) *Aluminum.*

All cylinder components must be 6061-T6 aluminum with a minimum yield strength of 40,000 psi and minimum ultimate strength of 45,000 psi.

§ 178.42(d) *Manufacture.*

(added) Welding, brazing, or heating to temperatures above 300°F for any purpose whatsoever is prohibited.

§ 178.42(f) *Hydrostatic test.*

(a) Hydrostatic test must be as follows:

(1) Each cylinder (seamless tube with end caps but without pistons, and with tie bolts, if applicable) must be tested to a hydrostatic test of 1,200 psi and show no defect.

(2) In addition, one cylinder (seamless tube with end caps but without pistons, and with tie bolts, if applicable) out of each lot of 500 cylinders or less must be pressurized to failure. The pressure at which the cylinder fails to hold test pressure shall be recorded. This pressure may not be less than 2,400 psig. Rate of pressurization may not exceed 75 psi per second.

(3) The tube body of one cylinder from each lot that has passed the tests prescribed in § 178.42(f)(a)(2) of this exemption, must be flattened to not greater than 10 times wall thickness without cracking.

§ 178.42(g) *Leakage test.*

Each compartment of each piston style receptacle within the fully assembled cylinder must be subjected to a pneumatic test of at least 200 psig without leakage.

§ 178.42(i) *Marking.*

Applies except that "DOT-E 10370" be stamped in lieu of "DOT 3E 1800".

b. TESTING - Each cylinder must be visually reinspected at least once a year for deterioration of seals, scratches, dents and gouges. At this time the end caps, tie rods and indicating rods must be thoroughly cleaned with an appropriate solvent recommended by the manufacturer.

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 modification or change is made to the package or its contents 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 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.

f. Each cylinder must be overpacked for shipment in accordance with § 173.301(a)(9).

g. The cylinder may be used only for oil-well and LP gas sampling service.

h. Once a cylinder is exposed to fire for any period of time it is no longer covered by this exemption and may not be used for the transportation of hazardous materials.

i. Transportation of Division 2.1 (flammable gases) are not authorized aboard aircraft unless specifically authorized in the Hazardous Materials Table (§ 172.101).

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 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, Parts 171-180.

- 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.

- 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 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.:

R. Ramtahal

Robert A. McGuire
For Associate Administrator for
Hazardous Materials Safety

MAY 7 2004
(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.

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

reductions of this exemption are permitted. Any alteration of this exemption is prohibited.

PO: KFW/alb