U.S. Department
of Transportation
**Research and
Special Programs
Administration**

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

AUG 2 2 2001

DOT-E 7657
(FOURTEENTH REVISION)

EXPIRATION DATE: July 31, 2003

(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 stainless steel 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 any Hazardous Materials Regulation (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, 173.302(a)(1), 173.304(a)(1), (a)(2), (b), and 175.3 in that non-DOT specification cylinders are not authorized except as specified herein.

5. BASIS: This exemption is based on the application of Welker Engineering Company dated July 26, 2001, submitted in accordance with § 107.109.

AUG 2 2 2001

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Proper Shipping Name/ Hazardous Material Description	Hazard Class/ Division	Identi-fication Number	Packing Group
Ammonia Solutions	2.2	UN2073	N/A
Compressed gas, flammable, n.o.s. (Crude oil under pressure)	2.1	UN1954	N/A
Compressed gas, toxic, n.o.s. *Inhalation Hazard Zone D*	2.3	UN1955	N/A
Dichlorodifluoromethane	2.2	UN1028	N/A
1,2-Dichloro-1,1,2,2-Tetrafluoroethane	2.2	UN1958	N/A
Helium, compressed	2.2	UN1046	N/A
Hydrocarbon gases, liquefied, n.o.s.	2.1	UN1965	N/A
Isopropanol	3	UN1219	II
Methane, 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 - Packaging prescribed is a stainless steel non-DOT specification cylinder having a marked service pressure of 1800 psi, constructed from seamless stainless steel tubing, with threaded end caps or with flanged flat head end closures at each end restrained by tie rods, and containing a floating piston which forms two pressure chambers. Cylinder must conform with Welker Engineering sketches, photographs, drawings and calculations on file with the OHMEA and with DOT 3E specification (§§ 178.35 and 178.42) except as follows:

AUG 22 2001

§ 178.35(e) *Safety devices.*

(added) Each head must be equipped with safety relief devices.

§ 178.35(f) *Markings.*

Applies except marking "DOT-E 7657" in lieu of "DOT 3E".

§ 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 prior to shipment of the cylinders.

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

Seamless cylinder conforming with the following:

(1) Model CP-2 piston style receptacle has flat heads 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 must not exceed 1,000 cc.

(2) Model CP-4 piston style receptacle has threaded flat end caps on each end without tie rods; maximum volume is 100 cc.

(3) Dimensions are as follows:

Model Nos.	No. and size of tie rods.	Maximum O.D. x length	Minimum Side wall thickness (inch)
CP-2-50 thru CP-2-1000	6 x 3/8" OD	2.0" x 29"	.105 if threaded, .083 if not threaded.
CP-4-15 thru CP-4-100	none	1.25" x 14"	.074 if threaded, .055 if not threaded.

§ 178.42(b) *Steel.*

All cylinder components must be SA- 240 type 304 or 316 stainless steel.

§ 178.42(f) *Hydrostatic test.*

Hydrostatic test must be as follows:

(1) Each compartment of each piston style receptacle must be subjected to a pneumatic test of at least 500 psi without leakage.

(2) Each cylinder (seamless tube with end caps but without pistons, and with tie bolts, if applicable) must be tested to a hydrostatic test of 3,600 psig and show no defect.

(3) 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 must not be less than 5,000 psi. Rate of pressurization must not exceed 200 psi per second.

(4) The tube body of one cylinder from each lot that has passed the tests prescribed in § 178.42(f)(2) of this exemption, must be flattened to at least 10 times wall thickness without cracking.

§ 178.42(g) *Leakage test.*

Does not apply.

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.

c. OPERATIONAL CONTROLS -

i. Each cylinder must be shipped in outside packagings in accordance with § 173.301(k).

ii. The cylinder may be used only for materials that are being transported for purposes of analytical testing.

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 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.

10. MODAL REQUIREMENTS: A current copy of this exemption must be carried aboard each cargo vessel, aircraft or 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, Parts 171-180.

- 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 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.

AUG 22 2001

Robert A. McGuire
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.

PO: AM