



U.S. Department
of Transportation

Research and
Special Programs
Administration

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

JUL 13 2004

DOT-E 11054
(TENTH 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 stainless steel cylinders conforming with all regulations applicable to a DOT Specification 3A cylinder, except as specified herein, for the transportation in commerce of the materials listed in paragraph 6 below. 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(c), 173.202(c), 173.203(c), 173.302a(a)(1), 173.304a(a)(1) and (d)(3)(i) 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 January 7, 2004, and February 3, 2004 submitted in accordance with § 107.105 and the public proceeding therein.
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 a stainless steel non-DOT specification cylinder, constructed from seamless stainless steel tubing, with flanged flat head end closures at each end restrained by tie rods, and containing a piston which forms two pressure chambers. Cylinder must conform with Welker Engineering drawings and calculations on file with the Office of Hazardous Materials Exemptions and Approvals (OHMEA) and with the DOT Specification 3A (§§ 178.35 and 178.36), except as follows:

§ 178.35(b) *Inspections and analyses.*

Chemical analyses and tests as specified must be made within the United States unless otherwise approved in writing by the Associate Administrator, in accordance with § 107.807. Certification of original cylinder designs (Model CP-5 or CP-2HP) must be performed by an independent

inspection agency (IIA) approved in writing by the Associate Administrator, in accordance with § 107.803(a). The IIA certification must include an examination of the manufacturer's quality assurance procedures and the training records of the manufacturer's inspectors and a statement that the cylinder design meets all the requirements of this exemption. Once the IIA certifies a cylinder design, inspections and verifications required during production may be carried out by a manufacturer's inspector.

§ 178.35(e) *Safety devices.*

Pressure relief devices and other connections, if applied, must be as required or authorized by the appropriate specification, and as required in § 180.205(a) and 173.301. Each head must be equipped with pressure relief devices.

§ 178.35(f) *Markings.*

Applies except cylinders must be marked "DOT-E 11054" in lieu of "DOT-3A".

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

(1) Model CP-5 piston style receptacle has flat heads on each end restrained with 8-5/8 inch tie rods which are secured by nuts. The maximum volume may not exceed 6,000 cc. The maximum service pressure may not exceed 1,800 psig (six bolt configuration) or 2,160 psig (eight bolt configuration). The dimensions are as follows:

Maximum inside diameter: 3.785 inches
Maximum length: 39.5 inches long
Minimum side wall thickness: 0.192 inch

(2) Model CP-2HP piston style receptacle has flat heads on each end restrained with 6-1/2 inch tie rods which are secured by nuts at one end and threaded into the flat head at the other end. The maximum volume may not exceed 1,000 cc. The maximum service pressure is 3,600 psig. The dimensions are as follows:

Maximum inside diameter: 1.780 inches
Maximum length: 48.05 inches long
Minimum side wall thickness: 0.235 inch

JUL 13 2004

§ 178.36(b) *Steel.*

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

§ 178.36(g) *Heat treatment.*

The completed cylinders need not be heat treated.

§ 178.36(i) *Hydrostatic test.*

(1), (2) and (3) * * *

(4) Cylinders must be tested as follows:

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

(ii) Each cylinder (seamless tube with end caps but without pistons, and with tie bolts) must be hydrostatically tested to at least 3,000 psig in the case of cylinders with a marked service pressure of 1,800 psi, 3,600 psig in the case of cylinders with a marked service pressure of 2,160 psi or 6,000 psig in the case of cylinder with a marked service pressure of 3,600 psi and show no defect.

§ 178.36(j) *Flattening test.*

The tube body of one cylinder from each lot of 200 or less that has passed the test prescribed in § 178.36(i)(4)(ii) of this exemption must be flattened to at least 6 times wall thickness without cracking.

§ 178.36(n) *Leakage test.*

Not applicable.

b. TESTING - Each cylinder must be requalified in conformance with the § 180.209 requirements for a DOT Specification 3A cylinder.

c. OPERATIONAL CONTROLS -

(1) Each cylinder must be maintained and used in

conformance with the HMR requirements for a DOT Specification 3A cylinder.

- (2) The cylinder may be used only for oil-well and liquefied petroleum (LP) gas sampling service.

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. No modifications may be made to the cylinder which would affect its performance and its compliance with the requirements of this exemption until such modifications have been reviewed, tested and certified by an Independent Inspection Agency (IIA) as meeting the requirements of this exemption.
- g. If the Associate Administrator or the IIA deems it necessary, the IIA may perform periodic inspections of the manufacturer's facility.
- h. The IIA's design certification must include test results and documents related to the cylinder design approval. A

copy of the design certification must be maintained at each facility where the cylinder is manufactured and by the IIA for a period of 15 years from the date of completion of the design certification.

- i. Transportation of Division 2.1 (flammable gases) are not authorized aboard cargo vessel or aircraft unless specifically authorized in the Hazardous Materials Table (§ 172.101).
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:
- o All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, 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 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.:

JUL 13 2004

(DATE)

Robert A. McGuire
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 legible reductions of this exemption are permitted. Any alteration of this exemption is prohibited.

PO: KFW/AM