US Department
of Transportation

**Research and
Special Programs
Administration**

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

DOT-E 8900 (EXTENSION)

In accordance with 49 CFR 107.105 of the Department of Transportation (DOT) Hazardous Materials Regulations DOT-E 8900 is hereby extended by changing the expiration date in paragraph 10 from September 30, 1984 to September 1, 1986.

This extension applies only to party(s) listed below based on the application(s) received in accordance with 49 CFR 107.105. All other terms of the exemption remain unchanged. This extension forms part of the exemption and must be attached to it.

R. Grothe for

SEP 18 1984
(DATE)

n I. Roberts
Associate Director for
Hazardous Materials Regulation
Materials Transportation Bureau

Dist: FHWA FRA USCG FAA

EXEMPTION HOLDER	APPLICATION DATE
Justus Enterprises of Kansas, Inc. Chanute, KS	June 1, 1984

Expired - No Renewal - Not Active

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400 Seventh Street, S.W.
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DOT-E 8900
(CORRECTED COPY)

1. Justus Enterprises of Kansas (JEK), Chanute, Kansas, 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 nonflammable gases described in paragraph 3 below in commerce subject to the requirements specified herein. This exemption authorizes the use of a non DOT specification cylinder, and provides no relief from any regulation other than as specifically stated.

2. BASIS. This exemption is based on Cylinder Technology Incorporated's application dated July 14, 1982 submitted in accordance with 49 CFR 107.103 and the public proceeding thereon; supplemented by JEK's letter dated December 21, 1983.

3. HAZARDOUS MATERIALS (Descriptor and class). Compressed air, helium, and nitrogen classed as nonflammable gases.

4. PROPER SHIPPING NAME (49 CFR 172.101). Air compressed, helium, or nitrogen, as appropriate.

5. REGULATION AFFECTED. 49 CFR 173.302(a), 175.3.

6. MODES OF TRANSPORTATION AUTHORIZED. Motor vehicle, rail freight, cargo vessel, passenger-carrying aircraft, cargo-only aircraft.

7. SAFETY CONTROL MEASURES. Packaging prescribed is a welded non-DOT specification stainless steel cylinder complying with Cylinder Technology Incorporated's Drawing C-12181 Sheet 1, Revision D, Sheet 2 Revision C, and Sheet 3, Revision C, on file with the Office of Hazardous Materials Regulation (OHMR), and DOT Specification 3HT (49 CFR 178.44) except as follows:

178.44-2. Type, size and service pressure.

(a). Cylinder must have a seamless shell with one end fitting butt welded using the electron beam method on the hemispherical head and a water capacity of 25 cubic inches maximum.

(b). Service pressure is 6000 psi.

178.44-5. Authorized steel.

The cylinder must be made of Type 304L stainless steel complying with Federal Specification QQ-S-766C Amendment 5.

178.44-8. Manufacture.

(a). *** The thickness at the point of closure of

cylinders must be equal to at least the wall thickness of the cylindrical shell.***

(b). (Added). Each cylinder shall be subjected to a process treatment after welding by pressurizing to at least 100 percent, but not more than 110 percent of the test pressure and maintaining pressure for 60 seconds. The process treatment must be witnessed by the independent inspector.

178.44-9. Welding or Brazing.

Welding or brazing for any purpose whatsoever is prohibited except as authorized in 178.44-2(a) of this exemption.

178.44-11. Heat treatment.

a. Not required. Instead the starting material and representative cylinders must be subjected to the "test for resistance to intergranular corrosion" as prescribed in paragraph 4.5.3 of Federal Specification QQ-S-766C Amendment 5. Results of tests must show material to be free from precipitated chrome-carbides. Tests must be performed on:

(1) Each heat, coil, sheet, plate or other unit of starting material.

(2) One cylinder from each lot of 200 cylinders. The test cylinder shall be sectioned through the weld and the weld zone tested for carbide precipitates.

(i) If all test cylinders from the first 2000 cylinders produced prove to be free from carbide precipitation, the test frequency may be reduced to one test cylinder from each 1000 or less cylinders successively produced.

178.44-13 Pressure relief devices.

(a) * * *

(b) (Added) Approval of the pressure relief device required by 49 CFR 173.34(d) must be submitted to the OHMR prior to initial shipment.

178.44-15. Cycling test.

(a) (Added) Results of design qualification testing per 178.44-21(d) of this exemption must be submitted to the OHMR prior to initial shipment.

(b). Cycling test on each lot is not required.

(c) A lot is defined as a group of cylinders sequentially fabricated from the same heat of steel, manufactured by the same process, and stress relieved under the same conditions of time, temperature and atmosphere and shall not exceed 200 cylinders.

178.44-18 Physical tests - Not required.

178.44-19. Magnetic Particle Inspection.

Not required. Instead each cylinder must be inspected by a dye or liquid penetrant inspection in accordance with ASTM E-165-65. Inspection shall be performed externally on the finished cylinder after hydrostatic test. Evidence of discontinuities which may appreciably weaken the cylinder shall be cause for rejection.

178.44-21. Acceptable results of test.

(a). Flattening required without cracking to six times the wall thickness of the cylinder.

(b). Physical tests - not required.

(c). Burst pressure shall be at least 1.4 times test pressure. Fracture must be in the sidewall of the cylinder in a longitudinal direction. Actual burst pressure must be recorded.

(d) Design qualification cycling: three representative sample cylinders must withstand at least 50,000 pressurizations without evidence of failure.

178.44-22 Rejected Cylinders.

(a) and (b) * * *

(c) Repair of welded seams by welding prior to process treatment is authorized; subsequent thereto, all acceptable cylinders must pass all prescribed tests.

178.44-23. Marking.

(a). ***

(1). Instead of the DOT 3HT, each cylinder must be marked DOT-E 8900 followed by the service pressure.

(2). ***

(3). ***

(4). Stamping of the rejection elastic expansion is not required.

178.44-25. Inspectors Report.

The inspectors report must be appropriately modified to reflect identification and compliance with this exemption.

8. SPECIAL PROVISIONS.

a. Shippers may use the packaging covered by this exemption pursuant to 49 CFR 173.22a.

b. A copy of this exemption must be carried aboard each vessel, and aircraft, used to transport packages covered by this exemption.

c. The cylinders are limited to military weapons systems use only.

d. The cylinders must be shipped in strong outside packagings in compliance with 49 CFR 173.301(k).

e. Each cylinder must be reinspected and retested once every 3 years in accordance with 49 CFR 173.34(e) as prescribed for DOT 3HT cylinders except that the cylinder must be condemned at the termination of a 15 year period following the date of the original test and the rejection elastic expansion criteria does not apply.

9. REPORTING REQUIREMENTS. Any incident involving loss of contents of the package must be reported to the OHMR as soon as practicable.

10. EXPIRATION DATE. September 30, 1984.

Issued at Washington, D.C.:

JAN 6 1984

(DATE)

Alan I. Roberts
Associate Director for
Hazardous Materials Regulation
Materials Transportation Bureau

Address all inquiries to: Associate Director for Hazardous Materials Regulation, Materials Transportation Bureau, Research and Special Programs Administration, U.S. Department of Transportation, Washington, D.C., 20590. Attention: Exemptions Branch.

Dist: USCG, FAA, FHWA, FRA.