U.S. Department
of Transportation

**Research and
Special Programs
Administration**

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

APR 1 1999

DOT-E 11793
(FIRST REVISION)

EXPIRATION DATE: Septmeber 30, 1999

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Krupp Bilstein of America (formerly Bilstein Corporation of America)
San Diego, CA

2. PURPOSE AND LIMITATION:

   a. This exemption authorizes the manufacture, mark, and sale of certain shock absorbers and struts, containing a nonflammable gas, for transportation in commerce as accumulators, not subject to the Hazardous Materials Regulations (HMR) except as provided in this exemption.

   b. The safety analyses performed in development of this exemption only considered the hazards and risks associated with transportation in commerce. The safety analyses did not consider the hazards and risks associated with consumer use, use as a component of a transport vehicle or other device, or other uses not associated with transportation in commerce.

3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.

4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR Parts 100 - 180, except as provided in this exemption.

5. BASIS: This exemption is based on the application of Krupp Bilstein of America dated January 27, 1999, submitted in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

| Proper Shipping Name/ Hazardous Materials Description | Hazard Class/ Division | Identi-fication Number | Packing Group |
|---|---|---|---|
| Accumulators, pressurized, pneumatic or hydraulic (containing non-flammable, non-liquefied gas). | 2.2 | NA1956 | N/A |
| Articles, pressurized, pneumatic or hydraulic containing non-flammable, non-liquefied gas. | 2.2 | UN3164 | N/A |

7. SAFETY CONTROL MEASURES:

a. PACKAGING -

(1) Packaging prescribed is a shock absorber or strut considered as an "accumulator" as defined in the Hazardous Materials Regulations § 173.306(f). Accumulators authorized under this exemption, when conforming to the following and other provisions of this exemption, are not otherwise subject to the HMR.

(i) Each accumulator charged with non-liquefied, non-flammable gas may not have a gas space exceeding 0.50 liters (30.50 cubic inches).

(ii) Each accumulator must be designed for a minimum burst pressure not less than 5 times the charge pressure at 21.1°C (69.8°F). However, cartridges with a gas space less than 0.118 liters (7.22 cubic inches) may be designed for a burst pressure not less than 4 times the charge pressure at 21.1°C (69.8°F). The charge pressure for any accumulator may not exceed 40 bars (580 psig) at 21.1°C (69.8°F). Each accumulator must be fabricated from a material which will not fragment upon rupture.

(iii) Each accumulator design type must be such that when subjected to fire, the internal pressure must be relieved by means of fire degradable seal, or a pressure relief device, in order to prevent accumulator rupture.

(iv) Each accumulator covered by this exemption must be manufactured under a written quality assurance program which monitors parameters controlling burst strength, burst mode and performance in a fire situation. A copy of the quality assurance program must be maintained at each facility at which each accumulator is manufactured, and must be made available to a DOT representative upon request.

(2) Accumulators manufactured under this exemption may be shipped unitized in cages, carts, boxes or similar overpacks when offered for transportation, or transported, by a private or contract motor carrier or a common carrier under exclusive use for such service, from a manufacturer to a distribution center, from a manufacturer or distribution center to a retail outlet, or return. When not shipped as described above, accumulators must be packed in strong outside packagings and each package may not exceed 30 kg (66 pounds) gross weight.

b. TESTING -

(1) Design Type: A design type is defined as that representing accumulators with the same charge pressure, size, configuration, material of construction and finishing process. Design qualification test results must be maintained at each manufacturing facility and must be made available to a DOT representative upon request.

(2) Each design type must be qualified as follows:

(i) At least three accumulators for each design type must be hydrostatically pressurized to failure. The pressure at failure must exceed the minimum burst pressure specified in paragraph 7a(1)(ii) above. The observed failure mode may not be by fragmentation.

(ii) At least one accumulator for each design type must be subjected to a fire test in accordance with the Compressed Gas Association pamphlet CGA C-14. The test results must demonstrate that the pressure retention seals, and pressure relief devices, if any, are capable of preventing rupture of normally charged accumulators in a fire situation.

8. SPECIAL PROVISIONS:

a. A person who is not a holder of this exemption who 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 reoffered for transportation in conformance with this exemption and the HMR.

b. A current copy of this exemption must be maintained at each facility where the package is offered or reoffered for transportation.

c. MARKING - The marking requirements of §§ 172.203(a) and 172.301(c) are waived.

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

10. MODAL REQUIREMENTS: No modal-specific requirements apply to this exemption.

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, 49 CFR Parts 171-180.

- 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 inform the AAHMS, in writing, of any incident involving the package and shipments made under the terms of this exemption.

Issued at Washington, D.C.:

FOR Alan I. Roberts
Associate Administrator for
Hazardous Materials Safety

4/1/99
(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.

Dist: FHWA, FAA, FRA, USCG
PO: KFW