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

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

JUL 18 2003

Ms. Janet Cravener
Chief, Distribution Operations
Defense Logistics Agency
2001 Mission Drive
New Cumberland, PA. 17070-5000

Ref No.: 03-0163

Dear Ms. Cravener:

This responds to your June 26, 2003 letter and subsequent conversation with Mr. Darral Relerford concerning the requirements in the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) for performance-oriented packagings. Specifically, you ask about the appropriate packaging for a shipment by air of ethylene oxide and propylene oxide mixtures, with not more than 30 percent ethylene oxide, Class 3, UN 2983, PG I.

You propose to package your material in a combination package that consists of 5-liter plastic bottles contained within a 1A2 steel drum with a 4-mil polyethylene liner. You note that the inner packaging does not meet the hydrostatic pressure requirements for air shipment, as required by § 173.27(c)(ii) of the HMR.

For transportation by aircraft, the outer packaging of a combination packaging containing inner packages of a PG I liquid product is not required to meet the 250 kPa (36 psig) test pressure prescribed in § 173.27(c)(3)(ii). Section 173.27(c)(3)(ii) **only applies to single and composite packages intended to contain liquids**. Combination packages are not subject to the hydrostatic pressure test and marking requirements of §§ 178.605 and 178.503(a)(5) respectively. Section 173.27(c)(2) requires that packages for which retention of liquid is a basic function must be capable of withstanding without leakage an internal pressure based on the vapor pressure of the material to be transported. Section 173.27(c)(3)(i) allows inner packages that are not capable of meeting the pressure requirement to be placed in a supplemental packaging that meets the pressure requirements. Note that, although § 171.8 of the HMR includes separate definitions for "inner packaging" and "inner receptacle" the terms are used interchangeably throughout the HMR and are not interpreted to be different items.

I hope this information is helpful. Please contact us if you require additional assistance

Sincerely,

Susan Gorsky
Senior Transportation Regulations Specialist
Office of Hazardous Materials Standards

030163

173.27

DEFENSE LOGISTICS AGENCY
DEFENSE DISTRIBUTION CENTER
2001 MISSION DRIVE
NEW CUMBERLAND, PA 17070-5000

Relerford
§173.27
Packaging
03-0163

JUN 26 2003

IN REPLY
REFER TO

DDC-J-3/J-4-O

MEMORANDUM FOR DOT, RSPA, OFFICE OF HAZARDOUS MATERIALS STANDARDS

SUBJECT: Request for Interpretation, 49 CFR 173.27

Request assistance to determine if the following open head drum configuration is appropriate for the contents below. Drum markings: UN 1A2 / X 1.5 / 95 / 03 / USA / ** (** = Manufacturer Authorized Symbol). If this drum is not appropriate, please state reason.

PSN: Ethylene oxide and propylene oxide mixtures, with not more than 30 percent oxide
Hazardous Class: 3, UN Number: UN2983
PG: I
Relative Density 0.87
Physical State of Material: Liquid
Vapor Pressure at 50 or 55 degrees centigrade: Unknown
Quantity: 30 Liters
Inner packagings: Plastic Bottles, 5 liters each.
Total Quantity: 6 bottles
Note: Inner Packaging does not meet Hydrostatic Pressure Requirements for air shipment
Intermediate Packaging: 4-Mil polyethylene liner.
Outer Packaging: Steel Drum, 1A2
Absorbent: Vermiculite
Packaging Paragraph: 173.201

POC is Ms. Linda McCarthy, Commercial telephone (717) 770-8238. Your assistance is appreciated.

Janet Cravener

JANET CRAVENER
Chief, Distribution Operations