



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

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

FEB - 5 2001

Ref. No. 00-0341

Mr. Barry M. Longcor  
Citation Parts Distribution  
5 Cessna Blvd.  
Wichita, KS 67215

Dear Mr. Longcor:

This is in response to your letter requesting clarification of the requirements in the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) concerning empty oxygen cylinders. Specifically, you ask whether an empty oxygen cylinder is subject to the HMR. You are concerned that because oxygen has a Division 5.1 (oxidizer) subsidiary hazard, your empty oxygen cylinders do not meet the provisions in § 173.29(b)(1)(iv)(B).

Section 173.29(b)(1)(iv)(B) states that a packaging containing a Division 2.2 nonflammable gas with no subsidiary hazard and at an absolute pressure less than 280 kpa (40.6 psia) (see § 173.115(b)(1)) is not regulated under the HMR. In the case of an oxidizer as a subsidiary hazard, when the pressure in the cylinder is low (below 280 kpa (40.6 psia)), the subsidiary hazard is no longer posed and the empty cylinder is not subject to the HMR.

I hope this information is helpful. Please do not hesitate to contact us if you need additional information.

Sincerely,

Hattie L. Mitchell, Chief  
Regulatory Review and Reinvention  
Office of Hazardous Materials Standards



000341

# FAX

McIntyre  
§ 173.29  
Empty Packagings  
00-0341

Citation Parts Distribution  
#5 Cessna Blvd.  
Wichita, Ks. 67215

Date 12-6-00  
Number of pages including cover sheet 2

To: Interpretation of Regulations Review  
Department of  
Transportation  
Research and Special  
Programs Administration

From: Barry M. Longcor  
#5 Cessna Blvd.  
Wichita, Ks. 67215  
e-mail blongcor@cessna.textron.com  
Phone 316-517-8283  
Fax Phone 316-517-1235

Phone \_\_\_\_\_  
Fax Phone 1-202-366-3012  
CC: \_\_\_\_\_

**REMARKS:**  Urgent  For your review  Reply ASAP  Please comment

Ladies and Gentlemen:  
 We made a shipment of an empty oxygen cylinder to the manufacturer. The cylinder was opened and drained and left open for transportation. The consignee noted upon receipt of the shipment that the package was hissing! They were concerned that we were in violation of the CFR 49 regulations. I have since then been in contact with a couple of individuals with your organization trying to resolve this!

Please review the following sections of regulations and advise of the proper way, if any, to ship an oxygen cylinder as non-hazardous! 173.115b Division 2.2 (non-flammable, non poisonous compressed gas – including compressed gas, liquified gas, pressurized cryogenic gas, compressed gas in solution, asphyxiant gas and oxidizing gas). For the purpose of this subchapter, a non-flammable, nonpoisonous compressed gas (Division 2.2) means any material (or mixture) which—

(1) Exerts in the packaging an absolute pressure of 280 kPa (40.6 psia) or greater at 20 degrees C (68 degrees F), and  
 (2) Does not meet the definition of Division of 2.1 or 2.3

This previous section suggest that an Oxygen Cylinder could be shipped non-hazardous if the pressure was (280 kPa (40.6 psia)) or less at 20 degrees C (68 degrees F)).

173.29b2ivB states:  
 (173.29b) Notwithstanding the requirements of paragraph (a) of this section, an empty packaging is not subject to any other requirements of this subchapter if it conforms to the following provisions:  
 (173.29b2) The packaging—  
 (173.29b2iv) Contains only the residue of ---  
 (173.29b2ivB) A Division 2.2 non-flammable gas, other than ammonia, anhydrous, and with no subsidiary hazard, at an absolute pressure less than 28 kPa (40.6 psia); at 20 degrees C (68 degrees F)

Obviously Oxygen has a subsidiary risk of 5.1! I have underlined the sections in both parts that conflict with each other!

I received a Fax from Arthur Pollack, on 12-6-00 who was trying to help me resolve this question. I am not sure the letter dated Sept. 16-1997 from Edward T. Mazzullo, Director (Office of Hazardous Materials Standards) to Ms. Bea Lutz of Trans World Airlines is now accurate! It may have been at that time! I feel that this may be in error if (173.29b2ivB) is correct! The following page is a copy of that letter.

Could these cylinders be drained and a nitrogen gas input to a pressure less than (280 kPa (40.6 psia)) to allow transportation as non-hazardous?

I would appreciate your input on this subject matter to help resolve this issue. Thank you for your time!  
 I apologize; I will be out of the office from 12-7-00 through 12-11-00. I look forward to your correspondence on this.



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

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

SEP 16 1997

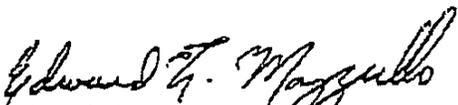
Ms. Bea Lutz  
Trans World Airlines  
9833 Air Cargo Road  
St. Louis International Airport  
St. Louis, MO 63134

Dear Ms. Lutz:

This is in response to your telephone inquiry regarding empty cylinders which previously contained oxygen. You asked about the extent to which such empty cylinders needed to be purged (see 173.29(b)(2)(ii)) in order for them not be subject to the Hazardous Materials Regulations.

Oxygen is a Division 2.2 gas and as such is only subject to the regulations when the pressure in the container (cylinder) equals or exceeds 280 kPa (40.6 psia) at 20° C (see 173.115(b)(1)). Therefore, oxygen cylinders where the pressure has been reduced to less than 280 kPa are not subject to the regulations and are considered to have been purged to the extent necessary for the purposes of 173.29(b)(2)(ii).

Sincerely,

  
Edward T. Mazzullo, Director  
Office of Hazardous Materials Standards

173.29