



U.S. Department of Transportation
**Pipeline and Hazardous Materials
Safety Administration**

1200 New Jersey Ave, SE
Washington, D.C. 20590

MAR 3 1 2010

Mr. Jason Miller
HSEQ Manager
Ashtead Technology, Inc.
19407 Park Row, STE 170
Houston, Texas 77084

Ref No: 09-0216

Dear Mr. Miller:

This responds to your September 18, 2009 letter regarding the applicability of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171–180) to the shipment of compressed hydrogen in non-specification cylinders. Specifically you ask if a material described as “Hydrogen, compressed, 2.1, UN 1049,” is excepted from the specification packaging requirements under § 173.306(a)(1) if shipped by highway and cargo aircraft only.

Under § 173.306(a)(1), a compressed gas placed in a non-specification container with a maximum capacity of four fluid ounces (7.22 cubic inches) or less may be described and transported as a limited quantity when it conforms with the provisions of this section. Note that the four fluid ounce (7.22 cubic inches) limit applies to the capacity of the container, not the volume of material contained in the container. This section excepts a limited quantity from labeling, unless offered for transportation by air, and from placarding and specification packaging requirements under the HMR. The HMR permit the shipment of Hydrogen, compressed by highway and cargo aircraft. Under the International Civil Aviation Organization’s Technical Instruction for the Safe Transport of Dangerous Goods by Air, compressed hydrogen is authorized for transport aboard cargo aircraft in accordance with packing instruction 200 which permits cylinders other than UN marked and certified cylinders, to be used if the design, construction, testing, approval and markings conform to the requirements of the appropriate national authority in which they are approved and filled.

I hope this satisfies your request.

Sincerely,

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

Andrews
§ 172.101
§ 173.306
Cylinders
09-0216

Drakeford, Carolyn (PHMSA)

From: INFOCNTR (PHMSA)
Sent: Wednesday, September 23, 2009 1:40 PM
To: Drakeford, Carolyn (PHMSA)
Subject: FW: Packaging requirements

From: Jason Miller [mailto:Jason.Miller@ashtead-technology.com]
Sent: Friday, September 18, 2009 3:30 PM
To: PHMSA HM InfoCenter
Subject: Packaging requirements

To whom it may concern,

Just to confirm as per the HMT table that non specification cylinders are except from packaging (i.e cylinder, container, drum) requirements of the HMR under 173.306. (I.E we have a non-dot, non-un cylinder full of hydrogen but is less than 7.2 cc) as far as I can tell we can transport it either by highway or cargo aircraft only but not passenger aircraft or rail assuming all other parts of the HMR followed.?

(a) Limited quantities of compressed gases for which exceptions are permitted as noted by reference to this section in §172.101 of this subchapter are excepted from labeling, except when offered for transportation or transported by air, and, unless required as a condition of the exception, specification packaging requirements of this subchapter when packaged in accordance with the following paragraphs. For transportation by aircraft, the package must also comply with the applicable requirements of §173.27 of this subchapter and only hazardous materials authorized aboard passenger-carrying aircraft may be transported as a limited quantity. In addition, shipments are not subject to subpart F (Placarding) of part 172 of this subchapter, to part 174 of this subchapter except §174.24, and to part 177 of this subchapter except § 177.817. Each package may not exceed 30 kg (66 pounds) gross weight.

(1) When in containers of not more than 4 fluid ounces capacity (7.22 cubic inches or less) except cigarette lighters. Special exceptions for shipment of certain compressed gases in the ORM-D class are provided in paragraph (i) of this section.

Symbols	Hazardous materials descriptions and proper shipping names	Hazard class or Division	Identification Numbers	PG	Label Codes	Special provisions (§172.102)	(8)			(9)		(10) Vessel stowage	
							Packaging (§173.***)			Quantity limitations (see §§173.27 and 175.75)		Location	Other
							Exceptions	Non-bulk	Bulk	Passenger aircraft/rail	Cargo aircraft only		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
	Hydrogen, compressed	2.1	UN1049		2.1	N89	306	302	302, 314	Forbidden	150 kg	E	40, 57

Regards

Jason Miller

Ashtead Technology

19407 Park Row, STE 160

Houston

Texas, 77084

281-398-9533

Jason Miller
HSEQ Manager

9/24/2009

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Sent: Wednesday, September 23, 2009 1:40 PM
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