



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

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

APR 02 2012

Commanding Officer
Naval Ordnance Safety and Security Activity
Attn: Mrs. Karen Bonnin
Farragut Hall
3817 Strauss Avenue, Suite 108
Indian Head, MD 20640-5151

Ref. No. 12-0037

Dear Mrs. Bonnin:

This responds to your request for written clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to the classification of certain pressure vessels that are integral components of Sidewinder Guidance Units (GU) and Captive Air Training Missiles (CATM) as part of the Sidewinder Missile (AIM-9X) Program. The non-specification pressure vessels have a volumetric capacity of 95 cc (5.8 cubic inches) and are charged with helium at 450 psig. You ask whether the GU and CATM units may be alternatively described as "UN3363, Dangerous goods in apparatus, 9" in lieu of "UN1046, Helium, compressed, 2.2."

The answer is yes. As prescribed in § 173.222(b)(3), a receptacle for gas, its contents and filling densities, must conform to the applicable requirements of the HMR. Because the pressure vessels meet the non-specification pressure vessel provisions under § 173.306(a)(1) of the HMR, they may be described as "UN3363, Dangerous goods in apparatus, 9." We intend to address this regulatory inconsistency you highlight in the § 172.102 Special provision 136 eligibility criteria in a future rulemaking. Additionally, this interpretation is consistent with the intent of the international standard on which this provision is based.

I trust this satisfies your inquiry. Please contact us if we can be of any further assistance.

Sincerely,

T. Glenn Foster
Chief, Regulatory Review and Reinvention Branch
Standards and Rulemaking Division

Drakeford, Carolyn (PHMSA)

Stevens
\$ 172.101
\$ 172.102 SP 105
\$ 173.222
Shipping Name
12-0037

From: Stevens, Michael (PHMSA)
Sent: Monday, January 30, 2012 2:40 PM
To: Drakeford, Carolyn (PHMSA)
Subject: FW: Assignment of Class 9, UN 3363 to Sidewinder Guidance Units and Captive Air Training Missiles
Attachments: 3363 Point Paper.docx; Assignment of Class 9_UN3363_Nov 2011sws.pptx

FYI

-----Original Message-----

From: Stevens, Michael (PHMSA)
Sent: Thursday, December 01, 2011 1:01 PM
To: 'Bonnin, Karen CIV NOSSA'
Subject: RE: Assignment of Class 9, UN 3363 to Sidewinder Guidance Units and Captive Air Training Missiles

Duly noted. Thanks!

-----Original Message-----

From: Bonnin, Karen CIV NOSSA [<mailto:karen.bonnin@navy.mil>]
Sent: Thursday, December 01, 2011 12:59 PM
To: Stevens, Michael (PHMSA)
Subject: RE: Assignment of Class 9, UN 3363 to Sidewinder Guidance Units and Captive Air Training Missiles

Commanding Officer
Naval Ordnance Safety and Security Activity
Attn: Mrs. Karen Bonnin
Farragut Hall
3817 Strauss Avenue, Suite 108
Indian Head, MD 20640-5151

Thank you!

Karen Bonnin
Naval Ordnance Safety and Security Activity DSN 355-6022 or Commercial 301 744-6022

-----Original Message-----

From: michael.stevens@dot.gov [<mailto:michael.stevens@dot.gov>]
Sent: Thursday, December 01, 2011 12:40
To: Bonnin, Karen CIV NOSSA
Cc: elias.cantu@us.army.mil; michael.burkhardt@dot.gov; Walseman, Ed CIV NOSSA; donald.burger@dot.gov; Duane.Pfund@dot.gov; charles.betts@dot.gov; Glenn.Foster@dot.gov; carolyn.drakeford@dot.gov
Subject: RE: Assignment of Class 9, UN 3363 to Sidewinder Guidance Units and Captive Air Training Missiles
Importance: High

Good Afternoon Karen,

On behalf of Director Charles Betts, I will ensure sure your request for interpretation is processed in a timely manner. However, in order to complete the process, we need a physical address to which we can mail our hard copy response. Thanks!

Regards,

Michael Stevens
Transportation Specialist (Regulations)
US Department of transportation
Pipeline and Hazardous Materials Safety Administration 1200 New Jersey Avenue, S.W.
Washington, DC 20590
(202) 493-0133

-----Original Message-----

From: Bonnin, Karen CIV NOSSA [<mailto:karen.bonnin@navy.mil>]
Sent: Thursday, December 01, 2011 7:20 AM
To: Burger, Donald (PHMSA); Pfund, Duane (PHMSA); Stevens, Michael (PHMSA)
Cc: Cantu, Elias Mr CIV USA SDDC; Burkhardt, Michael (PHMSA); Walseman, Ed CIV NOSSA
Subject: Assignment of Class 9, UN 3363 to Sidewinder Guidance Units and Captive Air Training Missiles

As discussed in our meeting of 29 Nov 11, I am requesting a review of the attached information and applicable regulations in 49 CFR. Please advise if a Class 9 assignment for the Sidewinder guidance units and missiles via UN 3363 or some other avenue is appropriate. In addition, please determine if any Associate Administrator approvals are required and the recommended/correct documentation method. Thank you for your attention to this matter.

Karen Bonnin
Naval Ordnance Safety and Security Activity DSN 355-6022 or Commercial 301
744-6022

Stevens
§ 172.101
§ 172.102 SP 105
§ 173.222
Proper Shipping
Name
12-0037

AGENDA ITEM – Assignment of Class 9, UN 3363, “Dangerous Goods in Apparatus,” to Sidewinder Guidance Units/Captive Air Training Missiles

- Guidance Units and Captive Air Training Missiles (CATM) for the Sidewinder Missile Program have been classified by DoD as 2.2, UN 1046, Proper Shipping Name Helium, Compressed. We are proposing to revise these classifications to Class 9, UN 3363, Proper Shipping Name “Dangerous Goods in Apparatus.”

-The only hazardous material within these configurations is compressed helium. The helium, less than 1 gram at 450 ± 10 psig, is contained within the cryoengine with an inner volume of 5.8 cubic inches.

-The cryoengine is a subcomponent of the Guidance Unit and the Guidance Unit is a subcomponent of the CATM.

-The cryoengine, when installed in the Guidance Units and CATMs, is a closed loop system used for cooling. It is approximately 2 inches diameter, 18 inches long, and weighs 2.53 pounds.

-The Guidance Unit is approximately 5 inches diameter, 24.2 inches long and weighs 26 pounds and is made out of titanium. It is shipped two per CNU-685 aluminum container.

-The CATM is approximately 5 inches diameter, 119 inches long and weighs 188 pounds. It is shipped four per CNU-609 aluminum container.

-Over 4,500 Sidewinder missiles (containing this guidance unit) have been shipped to field/fleet users without a single cryoengine related shipping/transportation incident over a 15 year period.

-Two special provisions in 49 CFR Table 172.101 are listed for UN 3363. They are A105 and 136.

-Special provision A105¹ is met.

¹ A105 The total net quantity of dangerous goods contained in one package, excluding magnetic material, must not exceed the following:

- a. 1 kg (2.2 pounds) in the case of solids;
- b. 0.5 L (0.1 gallons) in the case of liquids;
- c. 0.5 kg (1.1 pounds) in the case of Division 2.2 gases; or
- d. any combination thereof.

AGENDA ITEM – Assignment of Class 9, UN 3363, “Dangerous Goods in Apparatus,” to Sidewinder Guidance Units/Captive Air Training Missiles (cont)

-Special provision 136² requires the classification to be approved by the Associate Administrator because the Helium, Compressed exception listed in column (8) of 49 CFR 172.101 Table is provided in 49 CFR part 173 subpart G

-Requesting DOT’s input on appropriateness of DoD re-classing these Guidance Units and CATMs as Class 9, UN 3363, Proper Shipping Name “Dangerous Goods in Apparatus.”

² 136 This entry only applies to machinery and apparatus containing hazardous materials as in integral element of the machinery or apparatus. It may not be used to describe machinery or apparatus for which a proper shipping name exists in the §172.101 Table. Except when approved by the Associate Administrator, machinery or apparatus may only contain hazardous materials for which exceptions are referenced in Column (8) of the §172.101 Table and are provided in part 173, subpart D, of this subchapter. Hazardous materials shipped under this entry are excepted from the labeling requirements of this subchapter unless offered for transportation or transported by aircraft and are not subject to the placarding requirements of part 172, subpart F, of this subchapter. Orientation markings as described in §172.312 (a)(2) are required when liquid hazardous materials may escape due to incorrect orientation. The machinery or apparatus, if unpackaged, or the packaging in which it is contained shall be marked “Dangerous goods in machinery” or “Dangerous goods in apparatus”, as appropriate, with the identification number UN3363. For transportation by aircraft, machinery or apparatus may not contain any material forbidden for transportation by passenger or cargo aircraft. The Associate Administrator may except from the requirements of this subchapter, equipment, machinery and apparatus provided:

- a. It is shown that it does not pose a significant risk in transportation;
- b. The quantities of hazardous materials do not exceed those specified in §173.4a of this subchapter; and
- c. The equipment, machinery or apparatus conforms with §173.222 of this subchapter.