



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

1200 New Jersey Avenue, SE
Washington, DC 20590

March 29, 2021

Mr. Robert Weston
ORBITAL ATK
PO Box 98
Magna, UT 84044

Reference No. 20-0030

Dear Mr. Weston:

This letter is in response to your April 8, 2020, and May 4, 2020, emails requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to waste water collected from washing down feed chutes that supplied fuel to test rocket motors. You state that the waste water contains 75–95 percent “UN1442, Ammonium perchlorate, 5.1 (oxidizer), Packing Group (PG) II”; 5–25 percent water; and 0–1 percent trace amounts of “UN0226, Cyclotetramethylenetetranitramine, wetted, 1.1D (explosive),” also known as “HMX (high melting explosive), wetted.”

We have paraphrased and answered your questions as follows:

- Q1. You ask whether you may transport these drums using the associated safety data sheet (SDS) and description for the “UN1442, Ammonium perchlorate.”
- A1. In accordance with § 173.22 of the HMR, it is the shipper’s responsibility to properly classify a hazardous material and assign it a proper shipping name from the Hazardous Materials Table (HMT; § 172.101). This Office does not generally perform that function. However, while the previous material may have met the description for “UN1442, Ammonium perchlorate,” the characteristics of the waste water mixture may differ significantly from the ammonium perchlorate ingredient. In addition, all compositions containing any amount of explosive material, including compositions of diluted (desensitized) explosives or explosives combined or contaminated with other materials, meet the definition of a new explosive and must be classified and approved by PHMSA. Therefore, given the trace amounts of HMX present in the waste water, it must be examined in accordance with § 173.56.

- Q2. You ask whether you may use “generator knowledge” in this scenario along with the SDS to classify the waste water for disposal.
- A2. The answer is no. Please see Answer 1. The characteristics of the waste water mixture may differ significantly from those of the ammonium perchlorate that are reflected on the SDS. Additionally, the waste water also contains a secondary explosive; therefore, the shipper must classify the material in accordance with the HMR (see § 173.56(a)(2)).
- Q3. You ask whether the material meets the definition of a “new explosive” as defined in § 173.56, or whether you may ship these drums of waste water that contain trace amounts of “UN0226, Cyclotetramethylenetetranitramine, wetted, 1.1D (explosive)” using the original SDS for ammonium perchlorate.
- A3. The material meets the definition of a “new explosive,” so you may not use the original SDS as the basis for determining classification. A “new explosive” means an explosive produced by a person who: (1) Has not previously produced that explosive; or (2) Has previously produced that explosive but has made a change in the formulation, design or process so as to alter any of the properties of the explosive. The term “formulation” as used in the definition of a “new explosive” applies to the entire mixture and not just the explosive components. See § 173.56(a). Compared to the original ammonium perchlorate, the waste mixture has been altered during the process you described and contains a secondary explosive ingredient (HMX); therefore, the new mixture must be classified and approved in accordance with the HMR.

I hope this information is helpful. Please contact us if we can be of further assistance.

Sincerely,



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

From: [INFOCNTR \(PHMSA\)](#)
To: [Hazmat Interps](#)
Subject: FW: Letter of Interpretation Request
Date: Friday, April 10, 2020 2:46:26 PM
Attachments: [Weston LOI.docx](#)

Hello Alice and Ikeya,

I hope all is well. Please see below for letter of interpretation request.

Thank you,
Kathryn (HMIC)

From: Weston, Robert [US] (IS) <robert.weston@ngc.com>
Sent: Wednesday, April 08, 2020 3:23 PM
To: INFOCNTR (PHMSA) <INFOCNTR.INFOCNTR@dot.gov>
Cc: Cain, Phillip J [US] (IS) <phillip.cain@ngc.com>
Subject: Letter of Interpretation Request

Hello,

I am requesting a formal letter of interpretation for the following question with regards to shipping wet Ammonium Perchlorate that has trace amounts of HMX. The company I work for makes rocket motors and after we cast a rocket motor there is a cleaning process to remove excess ingredients to prep for a new motor. This includes a wash down of each dry ingredient feed chute to collect wet ingredients for recycle or disposal. The Ammonium Perchlorate chute is washed down into 55 gal drums and tested to make sure each drum can be recycled. A sample was pulled and sent to our company lab, which can test for explosive amounts below 1 ppb. The lab results came back showing that there is less than 1 ppm of HMX, about 50 micro grams (0.5 ppm) which would not change or affect the Ammonium Perchlorate and is considered non detect. I have been directed to send this drum for disposal and I want to know, can I ship this drum using the associated SDS for the Ammonium Perchlorate?

I just want to make sure that I am doing the right thing in this situation, so I called the DOT hotline and spoke with Sarah. She informed me that I can use generator knowledge in this case along with the SDS for disposal. Therefore, I would follow 40 CFR 261.20 through 261.33 for the classification of the waste in question and under 70 FR 34549 "generators and other persons can use other appropriate methods or process knowledge in determining whether a particular waste is hazardous due to its reactivity."

Following DOT hotlines guidance, this case does not meet the definition of 49 CFR 173.56 "new explosive" and I can ship for disposal this drum of Ammonium Perchlorate according to the SDS. In order for me to proceed with the disposal of this drum according to the SDS, my company has requested that I get this in writing to confirm that I will not be in violation of DOT. Sarah said if there were any questions about this issues that I should have them call her. For this purpose I am requesting a formal letter of interpretation for clarification in writing. Northrop Grumman's goals

are to follow the government regulations to protect human health and the environment.

Thank you

Robert Weston | Environmental Services

Northrop Grumman Corporation | Space Systems

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