



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

1200 New Jersey Ave, S.E.  
Washington, D.C. 20590

APR -8 2009

Mr. Anthony P. Cellucci  
Director, Transportation Compliance  
Clean Harbors Environmental Services, Inc.  
42 Longwater Drive  
Norwell, MA 02061-9149

Ref. No.: 09-0013

Dear Mr. Cellucci:

This responds to your electronic mail requesting clarification of the Hazardous Material Regulations (HMR; 49 CFR Parts 171-180) pertaining to the classification of explosives. Specifically, you request clarification on when an approval is needed for a waste stream containing a small amount of a Class 1 (explosive) material. You also ask if there is a threshold upon which an assumption may be made by the shipper that the material meets the definition of another hazard class or does not meet the definition of a hazardous material.

Your email provides two scenarios. In the first, a customer manufactures Trinitrotrimethylenetriamine (RDX) by incorporating the material into a solution of isopropanol and water in order to regulate the particle size. The explosive material is then removed from the isopropanol/water/RDX solution in a rotary evaporation procedure. The resultant waste material consists of a solution that contains 4.5% water, 93.7% isopropanol, 1.73% bis(2ethylhexyl) adipate (a non- DOT regulated plasticizer), .07% RDX and a non-detectable amount of cyclotetramethylenetetramine (HMX). In the second, a remediation project is conducted in which contaminated soils that contain trace amounts of RDX and/or HMX are excavated for disposal at a licensed waste management facility.

A new explosive is an explosive produced by a person who has not previously produced that explosive, or 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. An explosive is not considered a "new explosive" if an agency listed in paragraph (b) of §173.56 has determined and confirmed in writing to the Associate Administrator that there are no significant differences in hazard characteristics from the explosive previously approved (see 173.56(a)).

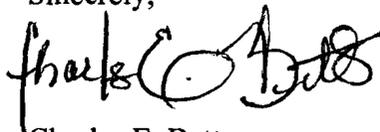
All new compositions containing any amount of explosive material must be classed and approved by DOT, including compositions of diluted (desensitized) explosives or explosives

combined or contaminated with other materials. An approved explosive that has been mixed with non-explosive or non-hazardous materials may be considered a new explosive if the change in formulation increases its sensitivity toward initiation or energetic content. An approved explosive that is to be discarded as a waste because it is off-spec would be a new explosive if the change in formulation that causes the material to be off-spec would increase the sensitivity toward initiation or energetic content of the explosive. Therefore, if the explosive properties of an approved explosive are increased after being mixed with filters, rags, dirt, or other material, then the explosive produced is a new explosive and must be approved in accordance with §173.56(b).

In accordance with §173.56(i), if experience or other data indicate that the hazard of a material or a device containing an explosive composition is greater or less than indicated according to the definition and criteria specified in §§173.50, 173.56 and 173.58, the Associate Administrator may specify a classification or except the material or device from the requirements of the HMR.

I hope this information is helpful. If we can be of further assistance, please contact us.

Sincerely,

A handwritten signature in black ink, appearing to read "Charles E. Betts". The signature is written in a cursive style with a large, stylized initial "C".

Charles E. Betts  
Chief, Standards Development  
Office of Hazardous Materials Standards



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Engelmann  
Leary  
§ 173.56  
Explosives  
09-0013

Via Electronic Mail

November 14, 2007

U.S. Department of Transportation  
Pipeline and Hazardous Materials Safety Administration  
Special Permits and Approvals  
East Building, 2<sup>nd</sup> Floor  
1200 New Jersey Avenue, SE  
Washington, DC 20590

RE: Request for Clarification – New Explosive Determination

Dear Sir or Madam:

Clean Harbors Environmental Services, Inc. provides a wide range of environmental services to our customer base in North America. We provide transportation and disposal capabilities for a wide range of hazardous, solid and special wastes through an internal network of fully licensed waste management facilities. In addition, we are a licensed hazardous waste transporter in the United States and Canada.

In the course of providing safe, compliant and economical solutions to our customer base, we have encountered situations where a known explosive compound is a component of a waste stream that a shipper is attempting to dispose of at a licensed waste management facility. Below, I have outlined two (2) separate examples of current projects where the regulations and letters of interpretations found on the DOT's website appear to indicate that the material in question would need to be approved in compliance with 49 CFR 173.56 "New Explosives – definitions and procedures for classifications and approval". The purpose of this letter is to obtain clarification from your organization as to the requirement to follow these procedures as our customers do not agree that the DOT intended to regulate and/or approve individual waste shipments.

#### EXAMPLE 1

A customer manufactures Trinitrotrimethylenetriamine (RDX) by incorporating his material into a solution of isopropanol and water in order to regulate the particle size. The explosive material is then removed from the isopropanol/water/RDX solution via a rotary evaporation procedure. The resultant waste material then consists of a solution that contains 4.5 % water, 93.7% isopropanol, 1.73%



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bis(2ethylhexyl) adipate (a non DOT regulated plasticizer), .07% RDX and a non detectable amount of cyclotetramethylenetetramine (HMX).

In this example, would the DOT consider this to be a new formulation requiring testing to either determine that a new explosive exists and needs to be classed and approved for shipment or that it is not an explosive and can be classified and shipped as a Class 3 flammable liquid for disposal?

#### EXAMPLE 2

A remediation project is conducted in which contaminated soils are excavated that contain trace amounts of RDX and/or HMX. This soil is destined for disposal at a licensed waste management facility. Would an approval process need to be initiated for this waste stream as a new explosive because it is no longer in the same state as when it was manufactured? Is there a threshold at which an assumption could be made whereby the material could be re classed as either a non regulated material or an alternate hazard class?

In summary, I am requesting clarification when compliance with 49 CFR 173.56 is mandatory and when a waste material would not need to be subject to this process. I have included a copy of the letter of interpretation that I review from the DOT whose applicability is being challenged by several of our customers.

Your attention and consideration with this request is very much appreciated. If additional information is required please contact me at (781) 792-5760.

Sincerely,

Anthony P. Cellucci  
Director, Transportation Compliance

Cc: File