TWO MINUTE TRAINING

TO: *CH2M HILL PLATEAU REMEDIATION COMPANY*

FROM: *PAUL W. MARTIN, RCRA Subject Matter Expert*
CHPRC Environmental Protection, Hanford, WA

SUBJECT: *RCRA LIQUIDS, FREE LIQUIDS, AND RELEASABLE LIQUIDS*

DATE: *SEPTEMBER 17, 2020*

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TWO MINUTE TRAINING

SUBJECT: RCRA Liquids, Free Liquids, and Releasable Liquids

Q: Leah asked, "What are the basic definitions of RCRA liquids, free liquids, and releasable liquids?"

A: Excellent question! Per an EPA letter dated July 20, 1989, EPA defined RCRA liquid with three different definitions depending on the specific regulatory application.

A "liquid" was defined as the material (liquid phase) that is expressed from the waste in step 2 of the Extraction Procedure, Method 1310 (replaced by the Toxic Characteristic Leaching Procedure (TCLP), Method 1311). This definition of liquid applies to characteristic wastes in terms of ignitability, corrosivity and TCLP.

A "free liquid" was defined as the material that drips from the waste using Method 9095 (the paint filter liquids test). This definition applies to determinations of whether waste is prohibited from land disposal per the prohibitions on liquid disposal at 40 CFR 264/265.314, "Special requirements for bulk and containerized liquids". Also, 40 CFR 260.10, defines free liquids as, "liquids which readily separate from the solid portion of a waste under ambient temperature and pressure".

A "releasable liquid" was defined as the material released from absorbed waste under landfill pressures. This definition applied to liquid wastes solidified with absorbents, which could be released due to the overburden pressure present in a landfill. Per the July 20, 1989, EPA letter, the 1984 RCRA amendments banned the use of absorbent materials that would release liquids when buried in a landfill. However, this ban was apparently never promulgated as a rule. On November 14, 2006, USEPA ("Find an Answer") documented that: *"On December 24, 1986, EPA proposed to add a section to 264/265.314 that would have stated that containers holding free liquids must not be placed in a landfill unless the containerized liquids or free liquids have been solidified and the waste/absorbent mixture does not release liquids as determined by [Test Method] 9096, among other things. However, it appears that this proposed addition was never finalized, as that language is not in the current 40 CFR 264/265.314. Additional Federal Registers on this issue included a supplemental notice on June 24, 1987, and a notice of data availability from October 29, 1991."*

Therefore, "releasable liquid" is not a formal RCRA definition.

SUMMARY:

- A "liquid" is the material (liquid phase) that is expressed from the waste in step 2 of Method 1310 (the Extraction Procedure), - replaced by Method 1311, the TCLP.
- A "free liquid" is the material that drips from a waste using Method 9095 (the Paint Filter Liquids Test).
- A "releasable liquid" is the material that would be released from the waste/absorbent mixture under the overburden pressure present in a landfill. However, this definition was never finalized.

The July 20, 1989, EPA letter is attached to the e-mail. If you have any questions, contact me at Paul_W_Martin@rl.gov or at (509) 376-6620.

FROM: Paul W. Martin **DATE:** 9/17/2020 **FILE:** 2MT\2020\091720.rtf

TWO MINUTE TRAINING – ATTACHMENT

SUBJECT: RCRA Liquids, Free Liquids, and Releasable Liquids

JUL 20 1989 9432.1989(04) RO 13307

Mr. Jeffrey A. Leed
Director - Waste Management
Exide Corporation
P. O. Box 14205
Reading, PA 19612-4205

Dear Mr. Leed:

In response to your recent letter, while your understanding is correct with respect to 40 CFR 261.22 defining the characteristic of corrosivity, your letter appears to indicate that there is still some confusion over the RCRA definition of a liquid.

The term liquid has three different definitions in the RCRA program depending on the specific regulatory application. In addition to the general definition used in the characteristics, the other types of liquids include "free liquid" and "releasable liquid". These other definitions of "liquid" find application in the waste management standards dealing with land disposal. Specifically, the regulations prohibit the landfilling of containerized wastes containing "free liquids". Similarly, the amendments to RCRA passed in 1984, banned the use of absorbent materials that would release liquids under the overburden pressure present in a landfill (i.e., "releasable liquids). The specific test procedures used in identifying the different types of liquids are:

Liquid:

A "liquid" is the material (liquid phase) that is expressed from the waste in step 2 of Method 1310 (the Extraction Procedure).

Free Liquid:

A "free liquid" is the material that drips from the waste using Method 9095 (the Paint Filter Test).

Releasable Liquid:

While we have not yet promulgated a specific test procedure for defining when a waste contains "releasable liquid", a draft procedure has been developed and proposed - The Liquid Release Test - method 9096.

Therefore, the first question to answer when characterizing a waste to determine if it exhibits the 40 CFR 261.22 (a)(2) definition of a corrosive waste, is whether the waste is a liquid. For this purpose the first definition, using step 2 of Method 1310, is to be used.

I hope that this helps to clear up any misunderstanding with respect to the hazardous waste identification characteristics. If you have any additional questions relative to waste testing, please contact my office at (202) 382-4761. For general questions on the hazardous waste identification characteristics, please call the Characteristics Section at (202) 382-4798.

Sincerely yours,

David Friedman, Chief
Methods Section (OS-331)

cc: Devereaux Barnes / Reva Rubenstein