

<u>SUBJECT</u>		<u>DATE</u>
1448.	Definitions of Inactive Portion, Active Portion and Closed Portion of a RCRA TSDF	AUG 12, 2021
1449.	Dangerous Waste Designations and Dangerous Waste Code Determinations	AUG 19, 2021
1450.	Method Detection Limits and Hazardous Waste Determinations	ENCORE AUG 26, 2021
1451.	Method Detection Limits and Hazardous Waste Determinations II	ENCORE SEP 2, 2021
1452.	Totals Analysis vs. TCLP and Dividing by 20	ENCORE SEP 9, 2021
1453.	Decharacterized RCRA Waste - Manifesting and LDR Reporting	ENCORE SEP 16, 2021
1454.	Decharacterized Hazardous Waste Listed Solely for Non-Toxic Characteristics	ENCORE SEP 23, 2021
1455.	Decharacterized Wastes and the LDR Dilution Prohibition	ENCORE SEP 30, 2021
1456.	The "Derived from Rule", the "Mixtures Rule", and the "Contained-In Policy"	ENCORE OCT 7, 2021
1457.	Hazardous Debris and Options to Exclude as a Dangerous Waste	OCT 14, 2021
1458.	Regulatory Status of Characteristic Baghouse Dust Destined for Reclamation	OCT 21, 2021
1459.	RCRA Point of Generation and Baghouse Dust Collection Systems	OCT 28, 2021
1460.	Pumps Containing Liquid Hazardous Wastes and Liquids in Landfill Prohibition	ENCORE NOV 4, 2021
1461.	Pumps Containing Liquid Hazardous Waste and Land Disposal Restrictions	ENCORE NOV 11, 2021
1462.	Pumps Containing Liquid Hazardous Wastes and RCRA Empty Containers	NOV 18, 2021
1463.	Multiple Characteristic Hazardous Waste Codes and Underlying Hazardous Constituents	ENCORE NOV 23, 2021

Approved for Public Release;
Further Dissemination Unlimited

DISCLAIMER - "Two Minute Training" ("2MT") is a peer-to-peer communication, presented to share the benefit of the author's work experience with other professionals, who can independently evaluate his analysis. 2MT does not necessarily reflect the opinions, conclusions or policies of the author's past or current employers or the US Department of Energy. The author's employers do not take any responsibility for the accuracy of its conclusions. 2MT is not intended to be used as authoritative guidance or direction by any person or entity. Anyone transmitting or reproducing it is prohibited from modifying its content, this disclaimer, or other text, or republishing it independent of its original source.

TWO MINUTE TRAINING

TO: CENTRAL PLATEAU CLEANUP COMPANY

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

SUBJECT: MULTIPLE CHARACTERISTIC HAZARDOUS WASTE CODES AND UNDERLYING HAZARDOUS CONSTITUENTS

DATE: NOVEMBER 23, 2021

<u>CPCCo Projects</u>	<u>CPCCo Functionals</u>	<u>HMIS</u>	<u>Hanford Laboratories</u>	<u>Other Hanford Contractors</u>	<u>Other Hanford Contractors</u>
Tania Bates	Jeff Bramson	Brett Barnes		Bill Bachmann	Dan Saueressig
Theresa Boles	Bob Bullock	Michael Carlson	(TBD)	Dean Baker	Lana Strickling
Justin Bolles	Frank Carleo	Mike Demiter	<u>DOE RL, ORP, WIPP</u>	Scott Baker	Joelle Moss
Rene Catlow	Bob Cathel	Kip George		Paul Crane	Glen Triner
Peter Ceton	Danielle Collins	Jerry Cammann		Tina Crane	Greg Varljen
Richard Clinton	Jennifer Copeland	Garin Erickson	Duane Carter	Ron Del Mar	Robin Varljen
Paul Fernandez	Stacy Cutter	Dashia Huff	Al Farabee	John Dorian	Julie Waddoups
Ryan Fisher	Jeanne Elkins	Mark Kamberg	Tony McKarns	Mark Ellefson	Jay Warwick
Randal Fox	Jonathan Fullmer	Jon McKibben		Darrin Faulk	Ted Wooley
Cory Grabee	Bailey Hardy	Saul Martinez		Rob Gregory	
Lawanda Grow	Steve Heninger	Matt Mills		James Hamilton	
Char Hall	John Hultman	Carly Nelson		Leah Hare	
Stuart Hildreth	Julie Johanson	Eric Pennala		Andy Hobbs	
Sarah Horn	Diane Leist	Jon Perry		Stephanie Johansen	
Aprill Jivelekas	Mitch Marrott	Christina Robison		Ryan Johnson	
Sasa Kosjerina	Stewart McMahand	Christian Seavoy		Megan Lerchen	
William Krueger	Carlie Michaelis	David Shaw		Mike Lowery	
Richard Lipinski	Brian Mitcheltree	John Skoglie		Michael Madison	
Stuart Mortensen	Anthony Nagel	Greg Sullivan		Terri Mars	
Edward Myers	Chris Plager			Cary Martin	
Trey Reppe	Linda Petersen			Grant McCalmant	
Dave Richards	Brent Porter			Steve Metzger	
Sean Sexton	Deborah Singleton			Tony Miskho	
Dave Shea	Dale Snyder			Tom Moon	
Seth Slater	Kat Thompson			Chuck Mulkey	
Phil Sheely	Wayne Toebe			Michelle Oates	
Jeff Westcott	Daniel Turlington			Kirk Peterson	
Richard Willson	Britt Wilkins				
Nick Wood					
Jon Wright					

Approved for Public Release;
Further Dissemination Unlimited

DISCLAIMER - "Two Minute Training" ("2MT") is a peer-to-peer communication, presented to share the benefit of the author's work experience with other professionals, who can independently evaluate his analysis. 2MT does not necessarily reflect the opinions, conclusions or policies of the author's past or current employers or the US Department of Energy. The author's employers do not take any responsibility for the accuracy of its conclusions. 2MT is not intended to be used as authoritative guidance or direction by any person or entity. Anyone transmitting or reproducing it is prohibited from modifying its content, this disclaimer, or other text, or republishing it independent of its original source.

TWO MINUTE TRAINING

SUBJECT: Multiple Characteristic Hazardous Waste Codes and Underlying Hazardous Constituents

Q: A nonwastewater waste consists of 50% acetone and 50% benzene. The hazardous waste codes are D001 ignitability for the acetone and benzene, and D018 for the benzene. The LDR treatment standard at [40 CFR 268.40](#) for the acetone/benzene mixture (D001 High Total Organic Constituents [TOC]) is CMBST (thermal treatment), RORGS (recover organics) or POLYM (polymerization), and no requirement to treat for underlying hazardous constituents (UHCs). The LDR treatment standard for the benzene (D018) is 10 ppm totals, benzene and treat for UHCs. Is the acetone constituent a UHC for the D018 waste code, or is the acetone constituent not a UHC since the LDR treatment for the acetone would be addressed by the D001 waste code - CMBST, RORGS or POLYM / No UHCs?

A: Note - This is a "Read Real Slow" edition of the Two Minute Training.

The question was submitted to USEPA's, "Find an Answer" website and USEPA's response was:

"You are correct, D001 High TOC waste does not require treatment for underlying hazardous constituents pursuant to 40 CFR §268.40. There is no treatment standard for D001 High TOC wastewaters and the D001 High TOC nonwastewaters require only treatment to a specified treatment technology. You are also correct that D018 requires treatment for underlying hazardous constituents pursuant to §268.40.

However, waste must meet treatment standards for all applicable waste codes before land disposal (§268.9(b)). Therefore, if a waste is appropriately characterized as two different waste codes, the treatment standards for both waste codes must be applied. The waste must meet treatment standards for all applicable waste codes before land disposal (§268.9(b)). D018 requires treatment for underlying hazardous constituents, which include acetone, pursuant to §268.40."

Therefore, the acetone constituent in this scenario would be a UHC to the D018 characteristic waste code regardless that the acetone exhibits the D001 characteristic of ignitability with an LDR treatment standard that does not require UHC treatment. All LDR treatment standards for both waste codes apply.

Note that the "in lieu of" principle at [40 CFR 268.9\(b\)](#), which can sometimes override a UHC, does not apply in this scenario since a listed waste code is not present, e.g., F003 for the acetone. Had this been an F003 (acetone) / D018 (benzene) waste mixture, there would be no UHCs since both constituents are specifically addressed by their corresponding hazardous waste codes, i.e., there is no need for the acetone to be a UHC to D018 since the F003 treatment standard would specifically address acetone.

SUMMARY:

- D001 High TOC nonwastewaters only require treatment to a specified treatment technology (CMBST, RORGS, or POLYM) and do not require treatment for UHCs.
- D018 nonwastewaters do require treatment for UHCs.
- A waste consisting of both D001 and D018 waste codes must meet all applicable treatment standards and therefore a D001 constituent such as acetone would be a UHC to the D018 waste code.

An excerpt of 40 CFR 268.9 is attached. If you have any questions, contact [Paul W Martin@rl.gov](mailto:Paul_W_Martin@rl.gov) or call (509) 376-6620.

FROM: Paul W. Martin

DATE: 11/23/2021

FILE: 2MT\2021\112321.tif

PG: 1

DISCLAIMER - "Two Minute Training" ("2MT") is a peer-to-peer communication, presented to share the benefit of the author's work experience with other professionals, who can independently evaluate his analysis. 2MT does not necessarily reflect the opinions, conclusions or policies of the author's past or current employers or the US Department of Energy. The author's employers do not take any responsibility for the accuracy of its conclusions. 2MT is not intended to be used as authoritative guidance or direction by any person or entity. Anyone transmitting or reproducing it is prohibited from modifying its content, this disclaimer, or other text, or republishing it independent of its original source.

TWO MINUTE TRAINING – ATTACHMENT

SUBJECT: Multiple Characteristic Hazardous Waste Codes and Underlying Hazardous Constituents

40 CFR §268.9 Special rules regarding wastes that exhibit a characteristic

- (a) The initial generator of a solid waste must determine each EPA Hazardous Waste Number (waste code) applicable to the waste in order to determine the applicable treatment standards under subpart D of this part. This determination may be made concurrently with the hazardous waste determination required in §262.11 of this chapter. For purposes of part 268, the waste will carry the waste code for any applicable listed waste (40 CFR part 261, subpart D). In addition, where the waste exhibits a characteristic, the waste will carry one or more of the characteristic waste codes (40 CFR part 261, subpart C), except when the treatment standard for the listed waste operates in lieu of the treatment standard for the characteristic waste, as specified in paragraph (b) of this section. If the generator determines that their waste displays a hazardous characteristic (and is not D001 nonwastewaters treated by CMBST, RORGS, OR POLYM of §268.42, Table 1), the generator must determine the underlying hazardous constituents (as defined at §268.2(i)) in the characteristic waste.
- (b) Where a prohibited waste is both listed under 40 CFR part 261, subpart D and exhibits a characteristic under 40 CFR part 261, subpart C, the treatment standard for the waste code listed in 40 CFR part 261, subpart D will operate in lieu of the standard for the waste code under 40 CFR part 261, subpart C, provided that the treatment standard for the listed waste includes a treatment standard for the constituent that causes the waste to exhibit the characteristic. Otherwise, the waste must meet the treatment standards for all applicable listed and characteristic waste codes.
- (c) In addition to any applicable standards determined from the initial point of generation, no prohibited waste which exhibits a characteristic under 40 CFR part 261, subpart C may be land disposed unless the waste complies with the treatment standards under subpart D of this part.
- (d) Wastes that exhibit a characteristic are also subject to §268.7 requirements, except that once the waste is no longer hazardous, a one-time notification and certification must be placed in the generator's or treater's on-site files. The notification and certification must be updated if the process or operation generating the waste changes and/or if the subtitle D facility receiving the waste changes.
- (1) The notification must include the following information:
- (i) Name and address of the RCRA Subtitle D facility receiving the waste shipment; and
 - (ii) A description of the waste as initially generated, including the applicable EPA hazardous waste code(s), treatability group(s), and underlying hazardous constituents (as defined in §268.2(i)), unless the waste will be treated and monitored for all underlying hazardous constituents. If all underlying hazardous constituents will be treated and monitored, there is no requirement to list any of the underlying hazardous constituents on the notice.
- (2) The certification must be signed by an authorized representative and must state the language found in §268.7(b)(4).
- (i) If treatment removes the characteristic but does not meet standards applicable to underlying hazardous constituents, then the certification found in §268.7(b)(4)(iv) applies.