

<u>SUBJECT</u>		<u>DATE</u>
1056. Hazardous Waste Tanks and the Less than 90-Day Accumulation Time Limit	ENCORE	APR 23, 2015
1057. Decharacterized RCRA Waste - Manifesting and LDR Reporting	ENCORE	APR 30, 2015
1058. Decharacterized Hazardous Waste Listed Solely for Non-Toxic Characteristics	ENCORE	MAY 7, 2015
1059. Decharacterized Wastes, <90-Day Accumulation Time Limits and LDR Storage Prohibition	ENCORE	MAY 14, 2015
1060. Decharacterized Wastes and the LDR Dilution Prohibition	ENCORE	MAY 21, 2015
1061. Hazardous Debris Macroencapsulation and Size Reduction	ENCORE	MAY 28, 2015
1062. Universal Waste Lamps and Prohibition on Crushing		JUN 4, 2015
1063. F003 Listed Hazardous Waste and the 10% Rule	ENCORE	JUN 11, 2015
1064. F001 - F005 Listed Hazardous Waste and the 10% Rule	ENCORE	JUN 18, 2015
1065. Macroencapsulation of Hazardous Debris and Presence of Free Liquids	ENCORE	JUN 25, 2015
1066. DOT Shipping of Damaged, Defective or Recalled Lithium Batteries		JUL 1, 2015
1067. Used Oil Eligibility for Animal and Vegetable Oils	ENCORE	JUL 9, 2015
1068. Used Oil Eligibility for Petroleum Oils Mixed with Animal or Vegetable Oils		JUL 16, 2015
1069. Conditioned Exclusion for Listed Hazardous Waste Debris Treated via Extraction/Destruction	ENCORE	JUL 23, 2015
1070. Conditioned Exclusion for Characteristic Debris Treated via Immobilization		JUL 30, 2015
1071. RCRA Personnel Training and Classroom Training vs. Online Training		AUG 6, 2015
1072. PCB Decontamination Standards with No Decontamination Performed		AUG 13, 2015
1073. PCB Manifest Exceptions a.k.a. When is a PCB Manifest Not Required	ENCORE	AUG 19, 2015
1074. PCB Manifest Relief a.k.a. When is a PCB Manifest Not Required – The Sequel		AUG 27, 2015
1075. Hazardous Debris and Radioactively Contaminated Cadmium Batteries	ENCORE	SEP 3, 2015
1076. Hazardous Debris and Radioactively Contaminated Lead Acid Batteries	ENCORE	SEP 10, 2015
1077. Mercury Wet Cell Batteries - Debris or Not Debris	ENCORE	SEP 17, 2015
1078. Hazardous Debris and Non-Radioactive Lead Acid Batteries		SEP 24, 2015
1079. Unused Paraformaldehyde - U Listed Hazardous Waste or Not?	ENCORE	OCT 1, 2015

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: CH2M HILL PLATEAU REMEDIATION COMPANY

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

SUBJECT: UNUSED PARAFORMALDEHYDE - U LISTED HAZARDOUS WASTE OR NOT?

DATE: SEPTEMBER 30, 2015

<u>CHPRC Projects</u>	<u>CH PRC - Env. Protection</u>	<u>MSA</u>	<u>Hanford Laboratories</u>	<u>Other Hanford Contractors</u>	<u>Other Hanford Contractors</u>
Richard Austin Tania Bates Ty Blackford Bob Cathel Rene Catlow Richard Clinton Larry Cole John Dent Brian Dixon Eric Erpenbeck Stuart Hildreth Mike Jennings Stephanie Johansen Jeanne Kisielnicki Melvin Lakes Jim McGrogan Stuart Mortensen Anthony Nagel Dean Nester Dave Richards Phil Sheely Connie Simiele Roni Swan Michael Waters Jeff Widney	Brett Barnes Ron Brunke Bill Cox Laura Cusack Lorna Dittmer Rick Engelmann Ted Hopkins Jim Leary Dale McKenney Jon McKibben Rick Oldham Linda Petersen Fred Ruck Jennie Seaver Ray Swenson Wayne Toebe Lee Tuott Daniel Turlington Dave Watson Joel Williams	Jerry Cammann Jeff Ehlis Garin Erickson Lori Fritz Panfilo Gonzales Jr. Dashia Huff Mark Kamberg Edwin Lamm Candice Marple Saul Martinez Jon Perry Thomas Pysto Christina Robison Don Rokkan Lana Strickling Lou Upton	(TBD) <u>DOE RL, ORP, WIPP</u> Mary Beth Burandt Cliff Clark Mike Collins Tony McKarns Ellen Mattlin Greg Sinton Scott Stubblebine	Bill Bachmann Dean Baker Scott Baker Lucinda Borneman Paul Crane Tina Crane Greta Davis Jeff DeLine Ron Del Mar John Dorian Mark Ellefson Darrin Faulk Joe Fritts Tom Gilmore Rob Gregory Gene Grohs James Hamilton Andy Hobbs Ryan Johnson Dan Kimball Megan Lerchen Richard Lipinski Charles (Mike) Lowery Michael Madison Terri Mars Cary Martin Grant McCalmant Steve Metzger Tony Miskho Matt Mills Tom Moon Chuck Mulkey Mandy Pascual Kirk Peterson Jean Quigley	Dan Saueressig Merrie Schilperoort Joelle Moss Glen Triner Greg Varljen Julie Waddoups Kyle Webster Jeff Westcott Ted Wooley

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: Unused Paraformaldehyde - U Listed Hazardous Waste or not?

Q: A customer has left a container of product formaldehyde on a laboratory shelf for several years. When a chemist attempted to use the formaldehyde, it was discovered that the material had polymerized to paraformaldehyde. The customer knows that discarded unused formaldehyde (CAS# 50-00-0) is specifically listed in [WAC 173-303-9903](#), "Discarded chemical products list", [40 CFR 261.33(f)], as a U122 listed dangerous waste. The customer also knows that discarded unused paraformaldehyde (CAS# 30525-89-4) is not specifically listed at WAC 173-303-9903. Is this unused paraformaldehyde a U listed waste and if so, what U listing applies?

A: Per [WAC 173-303-081](#), "Discarded chemical products", [40 CFR 261.33], it basically states that a waste will designate as a U listed dangerous waste if the material is a commercial chemical product or manufacturing chemical intermediate with a generic name listed in the discarded chemical products list at WAC 173-303-9903. Also, a waste will designate as a U listed dangerous waste if the material is an off-specification commercial chemical product or manufacturing chemical intermediate which if the material had met specifications would have the generic name listed in the discarded chemical products list at WAC 173-303-9903.

What this means is that if the off-specification paraformaldehyde had met original specifications, it would have had the generic name formaldehyde which is specifically listed in WAC 173-303-9903.

As further clarification, an [EPA RCRA Hotline Question and Answer memo dated March 1, 1994](#) stated:

"When a commercial chemical product listed in §§261.33(e) or (f) undergoes a chemical change that renders the chemical off-specification, the applicable P- or U-listing for the original chemical applies, even in cases where the chemical composition has changed sufficiently to require assignment of a different CAS Number."

Therefore the customer's paraformaldehyde, the off-specification chemical of formaldehyde, would designate as a U122 listed dangerous waste - the same U listing as on-specification formaldehyde.

SUMMARY:

- A waste is a U listed dangerous waste if the material is a commercial chemical product or manufacturing chemical intermediate listed in the discarded chemical products list.
- A waste is also a U listed dangerous waste if the material is an off-specification commercial chemical product or manufacturing chemical intermediate which if the material had met specifications would be listed in the discarded chemical products list.
- An off-specification chemical derived from an on-specification chemical is a U (or P) listed dangerous waste, if the on-specification chemical is U (or P) listed.

WAC 173-303-081(1) and the March 1, 1994, EPA memo are attached to the e-mail. If you have any questions please contact me at "Paul_W_Martin@rl.gov" or at (509) 376-6620.

FROM: Paul W. Martin

DATE: 10/1/15

FILE: c:\...\2MT\2015\100115.rtf

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: Unused Paraformaldehyde - U Listed Hazardous Waste or Not?

WAC 173-303-081 Discarded chemical products.

(1) A waste will be designated as a dangerous waste and assigned a "P" or "U" code if it is handled in any of the manners described in (e) of this subsection, and if it is a residue from the management of:

(a) A commercial chemical product or manufacturing chemical intermediate (see definition in WAC 173-303-040) which has the generic name listed in the discarded chemical products list, WAC 173-303-9903;

(b) An off-specification commercial chemical product or manufacturing chemical intermediate which if it had met specifications would have the generic name listed in the discarded chemical products list, WAC 173-303-9903;

(c) Any containers, inner liners, or residue remaining in a container or in an inner liner removed from a container that has held any commercial chemical product or manufacturing chemical intermediate that has, or any off-specification commercial chemical product or manufacturing chemical intermediate which if it had met specifications would have, the generic name listed on the "P" or "U" discarded chemical products list of WAC 173-303-9903, unless the containers or inner liners are empty as described in WAC 173-303-160(2);

(d) Any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill of a commercial chemical product or manufacturing chemical intermediate which has, or of an off-specification commercial chemical product or manufacturing chemical intermediate which if it had met specifications would have, the generic name listed in the discarded chemical products list, WAC 173-303-9903;

(e) The materials or items described in (a), (b), (c), and (d) of this subsection are dangerous wastes when they are:

- (i) Discarded or intended to be discarded as described in WAC 173-303-016 (3)(b)(i);
- (ii) Burned for purposes of energy recovery in lieu of their original intended use;
- (iii) Used to produce fuels in lieu of their original intended use;
- (iv) Applied to the land in lieu of their original intended use; or
- (v) Contained in products that are applied to the land in lieu of their original intended use.

TWO MINUTE TRAINING - ATTACHMENT

SUBJECT: Unused Paraformaldehyde - U Listed Hazardous Waste or not?

PPC: 9442.1994(03)

EPA: 540-R-94-005c

NTIS: PB94-922 403

RO 13658

March 1, 1994

"Off-Specification Paraformaldehyde Meets Commercial Chemical Product Listing"

Key Words: Commercial chemical product; U122

QUESTION:

A manufacturer stores product formaldehyde (CAS No. 50-00-0) in containers before use in a manufacturing process. While in storage, some of the pure formaldehyde polymerizes to form paraformaldehyde (CAS No. 30525-89-4), which is unusable in the manufacturing process because it does not meet required specifications. The manufacturer separates the paraformaldehyde from the usable formaldehyde and sends the off-specification chemical for disposal. Unused commercial chemical products containing formaldehyde are listed as U122 when discarded (40 CFR §261.33(f)). Paraformaldehyde is not found on the P- or U-list (40 CFR §§261.33 (e) or (f)). When discarded, is the off-specification paraformaldehyde a listed hazardous waste?

ANSWER:

In the above scenario, paraformaldehyde is an off-specification form of formaldehyde and meets the U122 listing (40 CFR §261.33(b)). When a commercial chemical product listed in §§261.33(e) or (f) undergoes a chemical change that renders the chemical off-specification, the applicable P- or U-listing for the original chemical applies, even in cases where the chemical composition has changed sufficiently to require assignment of a different CAS Number. (March 1994 Monthly Hotline Report)

FROM: Paul W. Martin

DATE: 10/1/15

FILE: c:\...\2MT\2015\100115.rtf

PG: 3

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.