

<u>SUBJECT</u>		<u>DATE</u>
1188. RCRA Empty Containers vs. TSCA PCB Decontaminated Containers - Scenario II	ENCORE	AUG 11, 2016
1189. RCRA Empty Containers vs. TSCA PCB Decontaminated Containers - Scenario III	ENCORE	AUG 18, 2016
1190. Product Spills and Waste Determinations	ENCORE	AUG 25, 2016
1191. Product Spills, Waste Determinations, and LDR	ENCORE	SEP 1, 2016
1192. Regulatory Status of Caustic Rinse Waters Contaminated with Trace Solvents	ENCORE	SEP 8, 2016
1193. Regulatory Status of Sand Blast Grit Contaminated with Trace Listed Solvents	ENCORE	SEP 15, 2016
1194. Hazardous Waste "F" Listings and Trace Contamination	ENCORE	SEP 22, 2016
1195. Hazardous Waste "F" Listings and Trace Contamination – Again!	ENCORE	SEP 29, 2016
1196. Hazardous Waste Determinations and Phase Separation		OCT 6, 2016
1197. Asbestos and DOT Relief	ENCORE	OCT 13, 2016
1198. PCB Containers and Concentration of PCBs	ENCORE	OCT 20, 2016
1199. PCB Analytical Waste Disposal Requirements	ENCORE	OCT 27, 2016
1200. PCB Analytical Waste Disposal Requirements – Water vs. Organic Liquids and Non-aqueous Inorganic Liquids		NOV 3, 2016
1201. Listed Waste Codes and Pre-RCRA Wastes	ENCORE	NOV 10, 2016
1202. Purpose of the ≤90-day Hazardous Waste Accumulation Exemption		NOV 17, 2016
1203. Used Oil Eligibility for Turkey and Ham Oils	ENCORE	NOV 23, 2016
1204. PCB Reporting and Recordkeeping Relief	ENCORE	DEC 1, 2016
1205. Defining Criteria for Household Waste Exclusion	ENCORE	DEC 8, 2016
1206. The Household Waste Exclusion and Renovation Debris	ENCORE	DEC 15, 2016
1207. 'Twas the Night before Christmas – The Twenty-Fourth Annual Edition		DEC 24, 2016
1208. The Household Waste Exclusion and Renovation Debris – Part II	ENCORE	DEC 29, 2016
1209. Absorbent Additions and Treatment		JAN 5, 2017
1210. Frozen RCRA Wastewater - DOT Liquid or Solid When Manifested?	ENCORE	JAN 12, 2017
1211. DOT Marking Specifications for the "UN", "NA" and "ID" Markings		JAN 19, 2017
1212. Satellite Accumulation within a ≤90-day Accumulation Area	ENCORE	JAN 26, 2017
1213. Washington State-Only Dangerous Waste Markings – Accumulation vs. Pre-Transport	ENCORE	FEB 2, 2017
1214. RCRA Empty Tanker Trailers and Listed Waste Codes	ENCORE	FEB 9, 2017
1215. RCRA Empty vs. DOT Empty	ENCORE	FEB 16, 2017
1216. RCRA Empty vs. DOT Empty II	ENCORE	FEB 23, 2017
1217. Multiple Characteristic Hazardous Waste Codes and Underlying Hazardous Constituents	ENCORE	MAR 2, 2017
1218. Multiple Characteristic and Listed Hazardous Waste Codes and the "in lieu of" LDR Principle	ENCORE	MAR 9, 2017
1219. LDR Storage Prohibitions and the One-Year Rule	ENCORE	MAR 16, 2017
1220. LDR Storage Prohibitions and Treated Wastes	ENCORE	MAR 23, 2017
1221. LDR Storage Prohibitions and Treated Hazardous Debris or Contaminated Soil		MAR 30, 2017
1222. LDR Requirements for Universal Wastes		APR 6, 2017
1223. LDR Requirements for Spent Lead-Acid Batteries Being Reclaimed		APR 13, 2017
1224. When is When Defined for the RCRA Phrase "When Reclaimed"?	ENCORE	APR 20, 2017
1225. RCRA Characteristic of Ignitability and DOT Oxidizers	ENCORE	APR 27, 2017
1226. Safety Data Sheets (SDSs) and Hazardous Wastes	ENCORE	MAY 4, 2017
1227. Containers and Tanks – RCRA Wastes vs. TSCA PCB Wastes	ENCORE	MAY 11, 2017
1228. Universal Waste Lamps and Prohibition on Crushing	ENCORE	MAY 18, 2017
1229. Operating Record vs. Operating Log		MAY 25, 2017
1230. Operating Records Not Referenced in "Facility Recordkeeping"		JUN 1, 2017
1231. Used Oil and Weekly Inspections	ENCORE	JUN 8, 2017
1232. Used Oil, Secondary Containment and Response to Spills	ENCORE	JUN 15, 2017
1233. Used Oil and Keeping Containers Closed – Washington State vs. The Feds	ENCORE	JUN 21, 2017
1234. DOT Shipping of Damaged, Defective or Recalled Lithium Batteries	ENCORE	JUN 29, 2017
1235. Conditioned Exclusion for Listed Hazardous Waste Debris Treated via Extraction/Destruction	ENCORE	JUL 6, 2017
1236. Conditioned Exclusion for Characteristic Debris Treated via Immobilization	ENCORE	JUL 13, 2017
1237. Office Waste and RCRA Regulatory Status	ENCORE	JUL 20, 2017
1238. Office Waste Management	ENCORE	JUL 27, 2017
1239. RCRA EPA Identification Numbers – Site Specifics	ENCORE	AUG 3, 2017
1240. RCRA EPA Identification Numbers – Transporters		AUG 9, 2017
1241. Laboratory Standards and Applicability of the "U" or "P" Hazardous Waste Listings	ENCORE	AUG 17, 2017

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## TWO MINUTE TRAINING

**TO:** CH2M HILL PLATEAU REMEDIATION COMPANY

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

**SUBJECT:** LABORATORY STANDARDS AND APPLICABILITY OF THE "U" OR "P" HAZARDOUS WASTE LISTINGS

**DATE:** AUGUST 17, 2017

<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 Roni Ashley Tania Bates 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 Dean Nester Dave Richards Phil Sheely Connie Simiele Jennie Stults Jeff Westcott Jeff Widney	Ron Brunke Bob Bullock Bill Cox Laura Cusack Lorna Dittmer Ted Hopkins Sasa Kosjerina Jim Leary Rick Oldham Anthony Nagel Robert Nielson Linda Petersen Fred Ruck Ray Swenson Wayne Toebe Daniel Turlington Dave Watson Joel Williams	Brett Barnes Jerry Cammann Jeff Ehlis Garin Erickson Panfilo Gonzales Jr. Dashia Huff Mark Kamberg Edwin Lamm Candice Marple Jon McKibben Saul Martinez Jon Perry Christina Robison Lana Strickling Lou Upton	(TBD)  <u>DOE RL, ORP, WIPP</u>  Mary Beth Burandt Duane Carter Cliff Clark Tony McKarns Ellen Mattlin Greg Sinton Scott Stubblebine	Bill Bachmann Dean Baker Scott Baker Lucinda Borneman Paul Crane Tina Crane Jeff DeLine Ron Del Mar John Dorian Mark Ellefson Darrin Faulk Joe Fritts Lori Fritz 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 Marty 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 Jay Warwick Kyle Webster Ted Wooley

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## TWO MINUTE TRAINING

**SUBJECT:** Laboratory Standards and Applicability of the "U" or "P" Hazardous Waste Listings

**Q:** A customer wants to dispose of an unused laboratory standard consisting of the commercial chemical product aldrin dissolved in methylene chloride. The aldrin is the sole active ingredient and constitutes less than 1 percent of the mixture. The methylene chloride is the carrier and constitutes more than 99 percent of the mixture. The customer determines that aldrin is listed as a P004 hazardous waste and that methylene chloride is listed as a U080 hazardous waste. Which listing applies to this unused lab standard - P004 or U080 or both?

**A:** Per [WAC 173-303-040](#) [ [40 CFR 261.33\(d\)](#), *Comment*], "Definitions", a commercial chemical product refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. In other words, a commercial chemical product is an unused material that consists of the pure chemical, a highly technical grade of the chemical or is a mixture that contains the chemical as a sole active ingredient.

The term "sole active ingredient" can be defined as an ingredient that is the only chemically active component for the function of a product. The function of the customer's lab standard is to calibrate laboratory instruments specifically to the chemical aldrin. Therefore the aldrin is the sole active ingredient and meets the definition of a commercial chemical product. The methylene chloride is also an ingredient in the lab standard; however, the methylene chloride is not the sole active ingredient. The methylene chloride functions only as a carrier for the aldrin. Therefore, in this specific case, the methylene chloride would not meet the definition of a commercial chemical product, i.e., the methylene chloride is not the pure chemical, a technical grade of the chemical or the sole active ingredient.

Then per [WAC 173-303-081](#) [[40 CFR 261.33\(a\)](#)], "Discarded chemical products", a waste will be designated as a "U" or "P" listed dangerous waste if the commercial chemical product or manufacturing chemical intermediate has the generic name listed in the discarded chemical products list, WAC 173-303-9903 [[40 CFR 261.33\(e\) and \(f\)](#)]. A review of [WAC 173-303-9903](#) confirms that "Aldrin" is listed as P004 hazardous waste. Since the customer's aldrin is a commercial chemical product as a result of being a sole active ingredient, the P004 listing applies. "Methylene chloride" is also listed as U080 hazardous waste, however, since the customer's methylene chloride does not meet the definition of a commercial chemical product and was used as a carrier for the sole active ingredient aldrin, the U080 listing for methylene chloride cannot apply.

Therefore this unused lab standard consisting of aldrin and methylene chloride is a P004 hazardous waste.

### SUMMARY:

- A commercial chemical product consists of commercially pure, or technical grade chemical, or formulations of the chemical in which the chemical is the sole active ingredient.
- Commercial chemical products are "U" or "P" listed if listed by generic name at 173-303-9903.
- In this specific scenario, aldrin is a P004 listed hazardous waste since it was a commercial chemical product (sole active ingredient) and listed in the discarded chemical list.
- Methylene chloride is not a U080 listed hazardous waste since it did not meet the definition of a commercial chemical product.

An EPA memo dated June 14, 1990, ([RO 11523](#)) further clarifying applicability of "U" and "P" listings to lab standards is attached. If you have any questions, please contact me at [Paul\\_W\\_Martin@rl.gov](mailto:Paul_W_Martin@rl.gov) or at (509) 376-6620.

**FROM:** Paul W. Martin

**DATE:** 8/17/17

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**PG:** 1

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## TWO MINUTE TRAINING - ATTACHMENT

**SUBJECT:** Laboratory Standards and Applicability of the "U" or "P" Hazardous Waste Listings

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

June 14, 1990

MEMORANDUM

**SUBJECT:** RCRA Waste Classification of Laboratory Standards

**FROM:** David Bussard, Director  
Characterization and Assessment Division (OS-330)

**TO:** Howard Wilson, Manager  
Environmental Compliance Program  
Environmental Health and Safety Division (PM-273)

This is in response to your memorandum of March 1, 1990, in which you requested that we provide clarification for the classification of wastes generated in laboratories. Specifically, you presented examples relevant to the preparation of laboratory standards using substances regulated under 40 CFR 261.33(e) and (f) (the P and U lists).

1) QUESTION: In the preparation of performance evaluation (PE) samples containing P or U-listed chemicals, an aliquot of the sample is taken and diluted 100 - 1000 fold to a final volume of one liter of water or solvent before analysis. The first question related to this scenario is whether the PE sample is a commercial chemical product (CCP) or is eligible for exclusion as a sample. Second, if the PE sample is indeed considered a commercial chemical product, you inquired whether the dilution of the PE sample before analysis is considered "use."

For example, organic semi-volatile PE samples to be analyzed for SDWA and NPDES certification will contain toxaphene (P123). Would the disposal of excess analytical solution be considered P123, D015 (if over 0.5 mg/L), D002 (if pH < 2), or a combination of the above?

ANSWER: Such samples are regulated as commercial chemical products provided that they have only one active ingredient. In the example you provided, the formulation consists of water plus the CCP as the sole active ingredient and, therefore, the excess analytical solution is correctly classified as EPA Hazardous Waste No. P123.

(2) QUESTION: In the preparation of laboratory standards, P and U-listed chemicals are mixed with water, acids, bases, or solvents. The resulting standard solution are disposed of when there is an excess, when they have exceeded their shelf life, or when they have been contaminated (not through use). The disposal of these waste standard solutions bring about several waste classification questions.

2A) QUESTION: Are these waste standard solutions P or U-listed wastes in cases in which the P/U listed solute is dissolved in water, acidic/basic solutions, organic solvents, or homogeneously mixed in an inert medium such as soil?

ANSWER: The answer in all these situations is "yes." Dissolving or diluting these chemical products to make laboratory standards (in lieu of buying such solutions) does not constitute use of these chemicals. The Federal Register notice which describes the sole active ingredient rule (§261.33 (d)) refers to the fact that many of the compounds listed under §261.33 (e) and (f) are frequently dissolved in solvents, preservatives, and the like, but this fact does not detract from the material's meeting the listing description (see 45 FR 78529, November 25, 1980). Assuming that there is a sole active ingredient (or, in this case, analyte), the mixtures you describe in your question meet the listing description in 40 CFR 261.33 even if the solvent (s) used are also listed in §261.33.

**FROM:** Paul W. Martin

**DATE:** 8/17/17

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## TWO MINUTE TRAINING - ATTACHMENT

**SUBJECT:** Laboratory Standards and Applicability of the "U" or "P" Hazardous Waste Listings

2B) **QUESTION:** If in the preparation of standards an acid or base is used as the solvent for a P or U-listed chemical and the final solution is corrosive, is the solution, upon disposal, D002 or D004 - D017 if it exceeds the EP Toxicity criteria, or a P/U-listed waste? For example, the atomic absorption analysis of arsenic requires the preparation of a standard with arsenic trioxide. Specifically, 1.32 g of As<sub>2</sub>O<sub>3</sub> (P012) analytical reagent grade is dissolved in one liter of distilled water, and several milliliters of concentrated nitric acid are added for preservation. Would the correct waste classification be P012, D004, or D002 (if pH < 2) or a combination thereof?

**ANSWER:** This situation is similar to the previous question. The solution you describe definitely meets the listing description for P012. Even if the waste is classified as a listed waste, waste generators should furnish information regarding whether the waste also exhibits any hazardous waste characteristics. There are several reasons for this: 1) safety of personnel at these facilities; 2) There are restrictions in §5264 and 265 regarding various characteristic wastes (e.g., reactivity and ignitability) in landfills or surface impoundments; and 3) The Land Disposal Restrictions program requires such knowledge to comply with Part 268 standards. (See 55 FR 22520 - 22720, June 1, 1990.) Although Federal law does not require that all applicable waste codes be placed on the hazardous waste manifests, Land Disposal Restrictions regulations will require that all waste codes be reported for the purposes of meeting LDR provisions. (See 40 CFR 268.7.) In addition, many state agencies may have more stringent rules concerning proper manifesting of wastes in which listing and characteristic waste codes apply.

2C) **QUESTION:** In the preparation of quality control solutions, commercial chemical products (either in a liquid or solid form) are dissolved in an organic solvent. Because the organic solvent is used for its solvent properties (i.e., to solubilize mobilize, or dissolve other chemical substances), any excess or expired solutions should be disposed with the spent solvent hazardous waste identification number. Is this correct?

For example, if a solution of 0.01 g aldrin (P004) and 0.01 g dieldrin (P037) dissolved in 100 mL of methanol is to be disposed of would the waste be classified as F003 and P037 and P004? The methanol, in this case, is used to solubilize the pesticide constituents, and the waste, therefore, meets the spent solvent listing.

**ANSWER:** The above statements are not correct. The answer to these questions is just like the answer to question 2A. Assuming that there is only one active ingredient (i.e., analyte or solute), the excess or expired solutions should be given the applicable commercial chemical product hazardous waste identification number under §261.33 no matter how many solvents are used (even if the solvents themselves are listed in §261.33). In the above example, more than one active ingredient exists, therefore the solution does not meet any listing description at this time. Additionally, when a solvent is used to formulate a compound or product (such a CCP), neither the solvent nor the formulated product meets the listing description for spent solvents. (See 50 FR 53315, December 31, 1985.) The disposed solution would have to be tested for hazardous waste characteristics, and would probably fail the ignitability (D001) characteristic.

3) **QUESTION:** Laboratories prepare many reagents with P and U-listed chemicals. During the analysis of polychlorinated dibenzo-p-dioxins and dibenzofurans, a reagent containing methylene chloride/methanol/benzene (75:20:5) is used. Upon disposal of excess reagent, would the mixture be identified as U080 (methylene chloride/CCP), U154 (methanol/CCP), U019 (benzene/CCP), F002 (methylene chloride/solvent), F003 (methanol/solvent), or F005 (benzene/solvent)?

**ANSWER:** None of the above. If any one P or U-listed chemical is dissolved in this reagent for the purpose of analysis, the discarded unused reagent would carry the waste code of that particular solute. (See answers to 2A and 2C.) From the description of the reagent you provided above, the unused reagent would be hazardous only if it exhibits a hazardous characteristic. This particular reagent would probably exhibit the characteristic of ignitability (D001). Please note that this waste also would be EP toxic for benzene when the newly promulgated organic Toxicity Characteristic becomes effective in September, 1990.

Thank you for your inquiry. If you have any further questions, please contact Ron Josephson of my staff at 475-6715.

cc: Waste Management Division Directors, Regions I - X

Susan Bromm, OWPE (OS-520)

FaxBack # 11523

**FROM:** Paul W. Martin

**DATE:** 8/17/17

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