

**Land Disposal Restrictions (LDR) Training
Final Exam**

1. Metal Furnaces Inc. operates a secondary lead smelter that generates baghouse dust from its furnaces (K069). The facility performed a TCLP test of the K069 dust (non-wastewater) indicating the presence of lead at 0.72 mg/L TCLP and cadmium at 0.07 mg/L TCLP.

A. True or False: The dust meets the applicable LDR treatment standard for the K069 calcium sulfate (low lead) subcategory.

True or False	Answer
1. True	Correct. Note: Even though the dust meets the LDR standards, it must go to a Subtitle C facility (e.g., for disposal) because it is a listed waste (i.e., it does not exit Subtitle C).
2. False	Incorrect. See the Treatment Table at 268.40. The applicable treatment standard for K069 non-wastewater in the calcium sulfate subcategory is 0.11 mg/L TCLP for cadmium and 0.75 mg/L TCLP for lead. Metal Furnaces Inc.'s baghouse dust meets both standards (0.72 mg/L < 0.75 mg/L for lead; 0.07 mg/L < 0.11 mg/L for cadmium). Note: Even though it meets the LDR standards, it must go to a Subtitle C facility (e.g., for disposal) because it is a listed waste (i.e., it does not exit Subtitle C).

B. True or False: The K069 baghouse dust must be monitored and treated for underlying hazardous constituents (UHCs) as defined at 268.2(i).

True or False	Answer
1. True	Incorrect. See 268.9(a). In addition, see Question 1.B in Exercise 1 of Lesson 1 for additional information.
2. False	Correct.

C. The waste will be sent offsite for land disposal. Which LDR paperwork requirements apply to Metal Furnaces for the K069 waste?

Requirement	Does the Requirement Apply?		Answer
	Yes	No	
Transmit and keep records of notice under 268.7(a)(2)			(No is Correct), this requirement does not apply. Section 268.7(a)(2) requires that, if a waste or contaminated soil does not meet the treatment standards, or if the generator chooses not to make the determination of whether his waste must be treated, the generator must send a one-time written notice to each treatment or storage facility receiving the waste, and place a copy in the file. The K069 waste meets the treatment standards
Transmit and keep records of notice under 268.7(a)(3)			(Yes is Correct), this requirement applies. The K069 waste meets the treatment standards. Section 268.7(a)(3) is a notification requirement for wastes that meet the treatment standards.
Transmit and keep records of notice under 268.7(a)(4)			(No is Correct), this requirement does not apply. Section 268.7(a)(4) requires that, if a generator's waste is exempt from the treatment standards (e.g., under a case-by-case extension), then with the initial shipment of waste, the generator must send a one-time written notice to each land disposal facility receiving the waste. No such exemption applies to Metal Furnace K069 waste in this scenario.
Develop and follow waste analysis plan under 268.7(a)(5)			(No is Correct), this requirement does not apply because Metal Furnaces is not treating the K069 waste onsite under 262.34, e.g., not treating the K069 in drums to meet the LDR treatment standard.
Keep records under 268.7(a)(6)			(Yes is Correct), this requirement applies. Section 268.7(a)(6) provides that, if a generator determines that the waste or contaminated soil is restricted based on knowledge or testing, all supporting data used to make this determination must be

Requirement	Does the Requirement Apply?		Answer
	Yes	No	
			retained on-site in the generator's files. Metal Furnaces must retain records of its TCLP tests.
Retain notice under 268.7(a)(7)			(No is Correct), this requirement does not apply. Section 268.7(a)(7) provides that, if a generator determines that he is managing a prohibited waste that is excluded from the definition of hazardous or solid waste or is exempted from Subtitle C regulation under 40 CFR 261.2 through 261.6 <i>subsequent to the point of generation</i> (including deactivated characteristic hazardous wastes managed in wastewater treatment systems subject to the Clean Water Act (CWA) as specified at 40 CFR 261.4(a)(2) or that are CWA-equivalent, or are managed in an underground injection well regulated by the SDWA), he must place a one-time notice describing such generation, subsequent exclusion from the definition of hazardous or solid waste or exemption from RCRA Subtitle C regulation, and the disposition of the waste, in the facility's on-site files. Metal Furnaces K069 waste is not excluded from the definition of solid or hazardous waste subsequent to the point of generation.
Keep records under 268.7(a)(8)			(Yes is Correct), this requirement applies. Section 268.7(a)(8) provides that generators must retain on-site a copy of all notices, certifications, waste analysis data, and other documentation produced pursuant to 268.7 for at least three years from the date that the waste that is the subject of such documentation was last sent to on-site or off-site treatment, storage, or disposal. The three year record retention period is automatically extended during the course of any unresolved enforcement action

Requirement	Does the Requirement Apply?		Answer
	Yes	No	
			regarding the regulated activity or as requested by the Administrator. Metal Furnaces has prepared a notice and waste analysis data under 268.7 that must be kept for 3 years (or longer during an enforcement action).

D. Should samples of the K069 waste be gathered through grab or composite sampling?

Choose the Correct Answer	Answer
1. Grab sampling	Correct.
2. Composite sampling	Incorrect. A grab sample is a one-time sample taken from any part of the waste. A composite sample is a number of individually collected samples that are combined into a single sample for subsequent analysis. A generator should use grab samples to determine if a hazardous waste meets the applicable treatment standards. However, if a treatment standard is based on the analysis of composite samples, then a generator can use composite samples to determine compliance with that treatment standard. The treatment standard for K069 nonwastewaters was based on analysis of grab samples and thus the facility should use grab samples. See the RCRA Inspector Training on Waste Analysis and Data Evaluation for additional information.

2. During unloading of incoming waste, a facility has a minor spill of characteristic-only hazardous waste. They clean it up and drum it. The contaminated soil exhibits the toxicity characteristic (TC) for silver when generated. The TC's regulatory threshold for silver is 5.0 mg/L TCLP. The initial concentration of silver in the soil (non-wastewater) is 60 mg/L TCLP, and there are no UHCs present at the point of generation. The generator intends to treat the waste in containment buildings under the LDRs and send it for land disposal offsite.

- A. True or False: If the generator treats the soil to meet 10 times UTS, the treated soil can be managed as a non-hazardous waste and sent to Subtitle D landfill, as provided at 268.49.

True or False	Answer
1. True	Correct.
2. False	Incorrect. 10 times UTS = $10 \times 0.14 \text{ mg/L TCLP} = 1.4 \text{ mg/L}$. 1.4 mg/L is lower than the TC's regulatory threshold for silver (5 mg/L TCLP). See 268.49.

- B. True or False: If the generator treats the soil to achieve 90% reduction in silver concentration, the treated soil can be managed as a non-hazardous waste and sent to Subtitle D landfill as provided at 268.49.

True or False	Answer
1. True	Incorrect. 90 percent reduction = 60 mg/L TCLP * 0.10 = 6 mg/L TCLP. 6 mg/L is higher than the TC's regulatory threshold for silver (5 mg/L TCLP). See 268.49.
2. False	Correct.

- C. Suppose the generator treats the soil in 90-day containment buildings to achieve 10 times UTS in silver concentration and the treated soil is fully de-characterized and has no UHCs. It will be sent to Subtitle D landfill. Which of the following LDR paperwork requirements apply to the facility for the treated soil?

Requirement	Does the Requirement Apply?		Answer
	Yes	No	
Transmit and keep records of notice under 268.7(a)(2)			(No is Correct), this requirement does not apply. This requirement applies only if the contaminated soil does not meet the treatment standards.
Transmit and keep records of notice under 268.7(a)(3)			(Yes is Correct), this requirement applies. Wastes that exhibit a characteristic are subject to 268.7, except that once the waste is no longer hazardous, a one-time notice and certification must be placed in the

Requirement	Does the Requirement Apply?		Answer
	Yes	No	
			generator's files onsite under 268.9(d). The soil is no longer hazardous after treatment. Hence, this requirement partially applies. However, because the treated waste is no longer hazardous and will be sent to a non-Subtitle C facility (e.g., solid waste landfill), there is no requirement to transmit the notice/certification offsite. Rather, the generator must comply with this requirement by preparing and retaining the notice and certification required at 268.9.
Develop, follow and retain waste analysis plan under 268.7(a)(5)			(Yes is Correct), this requirement applies. Section 268.7(a)(5) requires a generator to develop and follow a waste analysis plan if he is managing and treating prohibited waste or contaminated soil in tanks, containers, or containment buildings regulated under 262.34 to meet applicable treatment standards. The plan must be kept onsite. The contaminated soil is treated in containment buildings regulated under 262.34 to meet the LDR standards.
Prepare and retain notice and certification under 268.9(d)			(Yes is Correct), this requirement applies. Section 268.9(d) provides that 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. The treated soil is non-hazardous waste.

3. A commercial TSDF cleaned out several of its storage areas and shipped a variety of hazardous wastes offsite. During a routine inspection, you reviewed its LDR notices sent under

268.7(a)(9), which include a number of wastes, such as: chloroform (D022), various wastewater treatment sludges (K003, K004, K005), arsenic pentoxide (P011), 2,6-Dinitrotoluene (U106), hydrogen fluoride (U134), methyl methacrylate (U162), tetradhydrofuran (U213). Which wastes if any raise a compliance concern based on the information provided in this question?

Wastes	Is there a potential compliance concern with this waste?		Answer
	Yes	No	
1. chloroform (D022)			(No is Correct), there is no compliance concern with this waste based on the information provided.
2. K003-K005 sludges			(Yes is Correct), this waste was sent under the alternative treatment standards for lab packs but is prohibited, as provided by 268.42(c)(2) and Appendix IV to Part 268.
3. arsenic pentoxide (P011)			(Yes is Correct), this waste was sent under the alternative treatment standards for lab packs but is prohibited, as provided by 268.42(c)(2) and Appendix IV to Part 268.
4. hydrogen fluoride (U134)			(Yes is Correct), this waste was sent under the alternative treatment standards for lab packs but is prohibited, as provided by 268.42(c)(2) and Appendix IV to Part 268.
5. tetradhydrofuran (U213)			(No is Correct), there is no compliance concern with this waste based on the information provided.
6. methyl methacrylate (U162)			(No is Correct), there is no compliance concern with this waste based on the information provided.

4. True or False: If a permitted TSDf is storing hazardous waste in tanks and the waste meets applicable LDR treatment levels, the facility is required to mark the tank with a description of its contents, the quantity of each hazardous waste received, and the date each period of accumulation begins, or otherwise keep such records on file.

True or False	Answer
True	Incorrect. Such marking or recordkeeping is not required for tanks storing wastes meeting the LDR standards. Please review 268.50(a)(2) and (e) for more information.
False	Correct.

5. True or False: If a permitted TSDf is storing hazardous waste in containers, tanks and waste piles and the waste does not meet the treatment standards, the facility may store such waste for up to one year unless the Agency can demonstrate that such storage was not solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal.

True or False	Answer
True	Incorrect. Wastes that fail to meet the LDR standards cannot be stored in waste piles. Please review 268.50(a)(2) for more information.
False	Correct.

6. True or False: If an interim-status TSDf is storing hazardous waste in containers and tanks and the waste does not meet the treatment standards, the facility may store such wastes beyond one year; however, the owner/operator bears the burden of proving that such storage was solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal.

True or False	Answer
True	Correct.
False	Incorrect. Such storage beyond one year is allowed, as specified. Please review 268.50(a) and (c) for more information.

7. True or False: It is acceptable to treat hazardous wastes in or on a landfill to meet the LDR treatment standards, provided the unit is equipped with a liner and leachate collection/removal system, among other things.

True or False	Answer
True	Incorrect. EPA has clarified that “if a prohibited waste is placed in or on a land disposal unit before it is confirmed that the waste meets the treatment standard, and it turns out that the waste did not meet the standard, then the disposal is illegal unless the disposal unit is an approved no-migration unit.” (See RCRA Online Number 14843).
False	Correct.

8. If hazardous debris is contaminated with a hazardous waste that carries a waste code which requires a specified method of treatment in 268.40, can the alternative treatment standards for debris be used to treat the debris, or must the specified method of treatment for that waste code be used?

Possible responses	Check the correct response	Answer
Either method can be used		Correct.
The alternative method must be used only		Incorrect. As stated in 268.45(a), hazardous debris may be treated using the treatment standards found in Table 1 of that section or may be treated to the waste-specific treatment standard for the waste contaminating the debris. Either option is acceptable. However, as stated in 268.45(d), if the alternative treatment standards for debris are used, any residues from such treatment are subject only to the waste-specific treatment standards, except as otherwise specified.
The method specified in 268.40 must be used only		Incorrect. As stated in 268.45(a), hazardous debris may be treated using the treatment standards found in Table 1 of that section or may be treated to the waste-specific treatment standard for the waste contaminating the debris. Either option is acceptable. However, as stated in 268.45(d), if the alternative treatment standards for debris are used, any residues from such treatment are subject only to the waste-specific treatment

Possible responses	Check the correct response	Answer
		standards, except as otherwise specified.

9. If the alternative treatment standards for debris are used to treat debris contaminated with D012-D043 wastes, must the universal treatment standards for UHCs also be met?

Yes or No	Answer
Yes	Incorrect. As stated in 268.45(b)(1), the constituents subject to treatment in debris contaminated with toxicity characteristic waste are only those constituents for which the debris exhibits the characteristic. The debris itself is not otherwise subject to the universal treatment standards in 268.48. However, if any residues created from the treatment of such debris still display the toxicity characteristic found in 261.24, those residues are subject to the treatment standards found in 268.40 for the characteristic. The residues are also subject to the universal treatment standards in 268.48. See "Clarification of the Alternative Treatment Standards for Hazardous Debris" for additional information (RCRA Online Number 14220).
No	Correct.

10. This LDR notice was prepared under 268.7 for F006 waste that was generated from an electroplating facility and sent to a treater. Based on documentation provided by the electroplater, it also failed the TCLP for lead.

Land Disposal Restriction (LDR) Notice	
Generator name: WD Facility	
EPA ID Number: NY982394827	Manifest Number: 185738111 JJK
This notice is being provided in accordance with 40 CFR 268.7 to inform you that this shipment contains waste restricted from land disposal under USEPA land disposal restriction program. Identified below for each container is the designation of the waste as a wastewater or non-wastewater, applicable waste codes and any corresponding subcategories, list of any F001-F005 solvent constituents that are present in the waste, and any underlying hazardous constituents that are present.	
Container: : NY -1892837643458-001 (1/1)	
WIP Approval Code: 800919/PTAAERNJ1	
Wastewater or Non-wastewater: Non-wastewater	
Waste codes (subcategories): F006	
Constituents (F001-F005): None	
UHCs Present: None	
Treatment requirements: restricted waste requires treatment to applicable standards	

A. Must the waste code for lead (D008) be listed on the notice?

Yes or No	Answer
Yes	Incorrect. The treatment standard for F006 non-wastewater includes a standard for lead. The waste code for lead should not be on the notice.
No	Correct.