

The New Jersey Water Environment Association Site Remediation Committee Regulatory Course

June 2, 2015

Waste Management for the LSRP and Remediation Practitioners



SRPL Board - June 2015

Audits 5 New Audits Per Month

Continuing Ed. New Course Offerings

Financial 2016 Budget, Fees

Licensure Renewals, 2015

41 New LSRPs

Prof. Conduct Complaint Investigations

Rules Review Public Comments

Need: Senate Approval of New Members

Ira L. Whitman, LSRP



<u>Proper</u>

Waste Classification



<u>AGENDA</u>

- Introduction
 - Regulatory Overview
- Waste Classification
 - Solid Waste Definition
 - Identification & Listing of "Hazardous Waste"
 - Exclusions



Federal Regulations

- Resource Conservation and Recovery Act (RCRA)
- EPA Hazardous Wastes (40 CFR 260-270)
- Regulated Entities
 - Generators
 - Transporters
 - TSDF's



Is the material a Solid waste?

Any solid, liquid, or contained gaseous material that is discarded by being disposed of, burned or incinerated, or recycled falls into a regulatory category that EPA terms "solid waste" (whether or not the waste material itself is solid, in the usual sense of the term). Certain solid wastes are considered by EPA to be "hazardous wastes" on the basis of a set of definitions and rules.



HAZARDOUS WASTE DETERMINATION [262.11]

- Generator's Responsibility
 - By Knowledge of Process/Waste
 - 2. By Analytical Testing



DEFINITION OF HAZARDOUS WASTE [261.3]

- Exhibits Characteristic Waste (I, C, R, TC)
- Listed Waste (F, K, U & P)
- Not Excluded



Characteristic Waste

- Ignitability—Dooi (Flash Point < 140F)
- Corrosivity--Doo2
 (pH≤2 or pH≥12.5)
- Reactivity--Doo3
- Toxicity--Doo4-Do43



<u>Characteristic Waste</u> TOXICITY D004 – D043

- 8 Heavy Metals [Doo4-Do11]
- 6 Pesticides [Do12-Do17]
- 25 Organic Compounds [Do18-Do43]
- Use TCLP Analysis on Solid Material
- If material is above the Regulatory Level (ppm) it is Hazardous



LISTED HAZARDOUS WASTE

- "F" List--Waste from Non-Specific Sources
- "K" List--Waste from Specific Sources
- "U & P " Lists--Discarded Commercial Chemical Products



Categories of F-Listed Wastes

The categories of F-listed wastes are:

- spent solvent wastes (Foo1 Foo5)
- wastes from electroplating and other metal finishing operations (Foo6 Fo12,

F019)

- dioxin-bearing wastes (Fo2o Fo23 and Fo26 Fo28)
- wastes from the production of certain chlorinated aliphatic hydrocarbons (Fo24,Fo25)
- wastes from wood preserving (Fo32, Fo34, and Fo35)
- petroleum refinery wastewater treatment sludges (Fo37 and Fo38)



THE P AND U LISTS: DISCARDED COMMERCIAL CHEMICAL PRODUCTS

The P and U lists designate as hazardous pure or commercial grade formulations of certain unused chemicals. or a waste to qualify as P- or U-listed, a waste must meet the following three criteria:

- The waste must contain one of the chemicals listed on the P or U list
- The chemical in the waste must be unused
- The chemical in the waste must be in the form of a "commercial chemical product.

Mixture Rule

Non-Hazardous Waste

Ŧ

Hazardous Waste

Is a Hazardous Waste



Mixture Rule

- Under the mixture rule, a listed hazardous waste remains regulated as a hazardous waste when it is mixed with a non-hazardous waste.
- There is an exemption for wastes listed solely for ignitability, corrosivity, toxicity and/or reactivity characteristics. Mixtures of such wastes that are decharacterized are eligible for exemption.



EXCLUSIONS & EXEMPTIONS

- Domestic Sewage
- CWA Industrial Discharges
- Farming Activity Wastes
- Household Hazardous Wastes
- Samples
- Selected Mining Wastes
- Spent Nuclear Wastes
- Recycled Batteries
- Recycled Scrap Metal



<u>RECYCLING EXEMPTION</u> [261.2(e)(1)]

- Use/Reuse as ingredient
- Use/Reuse as effective substitute
- Returned to original process





175 Route 46 West Fairfield, NJ 07004 800-426-9992 TCLP Overview (as presented to NJWEA)

June 2, 2015

Introduction

Who am I?



David Wickliffe- VP of Customer Services

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Home office: 973-244-9770

Dave@hcvlab.com

28 Years of Environmental Lab Experience From Running, Fixing Equipment, Writing SOP's Been with HC over 14 years

Presentation Outline



TCLP Method EPA 1311

History

Procedure

Solid Vs Other

Method

TAT and Report Types

Collection – How Many

History

EPTOX stands for Extraction Procedure Toxicity

- Used in the 70's thru 90's (Still used today in some cases)
- EPA 1310

TCLP stands for **Toxicity Characteristic Leaching Procedure**

- Resource Conservation and Recovery Act (RCRA) of 1976 for Solid/Hazardous Waste
- EPA Method 1311
- RCRA requires that Industrial and other Waste to be Characterized

SPLP stands for SYNTHETIC PRECIPITATION LEACHING PROCEDURE

- EPA 1312
- Used to show what can be Leached out of the Soil then compared to set Standards
- Many other Uses for Soil West of the Mississippi

ASTM Leachate - Form U's in PA



TCLP Procedure



- Sample Preparation for Leaching
- 2. Sample Leaching
- 3. Preparation of Leachate for Analysis
- 4. Leachate Analysis

Sample Preparation for Leaching



- (1)determination of the percent solids
- (2) determination of whether the waste contains insignificant solids and is, therefore, its own extract after filtration
- (3) determination of whether the solid portion of the waste requires particle size reduction
- (4) determination of which of the two extraction fluids are to be used for the nonvolatile TCLP extraction of the waste

TCLP Water or Oil



If Water (Polar), the sample is Extracted like a Total.

If Water and Solid- Both are Measured and Weighed- Solid go to be Tumbled and then Mixed back together in the same Ratio's as Received.

If Oil (Non-Polar) – Waste Dilution is Done

In the FAQ files within the method on EPA website, Waste Oils and Non-Polar Liquids should not be don't by TCLP Method because this type of Matrix should never go into Landfills. Better Option should be Burned.

TCLP Method



The TCLP Extraction Procedure is used to determine the leachability of inorganic and organic analytes present under acidic conditions. The procedure may be applied to liquid, solid, or multiphasic wastes. It is designed to simulate acid-rain conditions in the field over a prolonged time period.

TCLP Method



Sample pH is taken First to check What TCLP Fluid is used (#1 or #2)

Leached with an Acetic Asid/Sodium Hydroxide Solution at a 1:20 mix of sample to Solvent (100 grams to 2 L of solution)

VOA uses 25 grams to 0.5 L in a ZHE

Samples are put in a Large Container and Tumbled for 18 hours. Set Speed and Outside Temp

TCLP Method



The Leachates are Filtered thru a 0.45 um Glass Filter. pH Checked again.

Now the Solid sample is a Water sample and Holdtimes Apply as if a Water (7 days for most)

Extracted to Preform

SVOC's / Pesticides/ Herbicides/ Metals/ VOA Limited List

Turnaround

Check w/ PM in advance for rush TAT



Contingent analyses & holding times in mind

From our Ts&Cs:

"Project TAT will begin when a clear, precise work order is established. The TAT clock can only begin after any unclear or inconsistent information is resolved."

"Project TAT begins on the day of receipt for samples received before 5:00 PM or the next business day for samples received after 5:00 PM. For samples received after 5:00 PM, email results will be due by 9:00 AM on the due date."

Report Type



Most of the time Waste Companies will want a Short Report – we call it a Waste Package.

Don't Forget the RIC Reactive CN & Sulfide Ignitability and pH

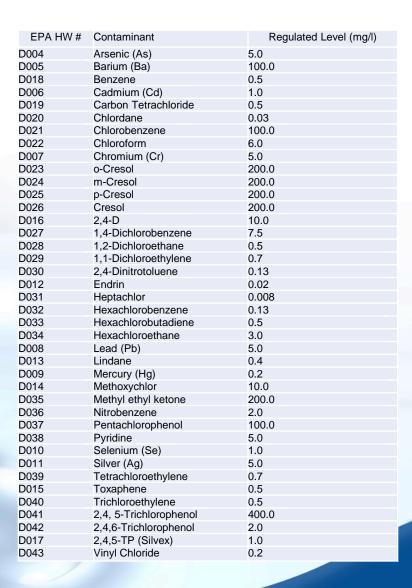
20 Time Rule



Because of the Ratio 1:20 mix, the Compound or Element can only be 20 times less than the Totals.

This is good to know for samples that you already have a Full TCL/TAL+30 on. Divide the Total by 20 and you can see if anything would be over the TCLP Limits.

TCLP Limits





Cost

- Cost for a Full TCLP Plus RIC runs about \$600 per sample. More if you need Faster.
- If the analytical results are below the TCLP MCL's the waste should be accepted.
- If they are above these Levels and have to be taken to a Hazardous Waste Disposal Facility- Cost can be from \$20 to \$500 per Ton.

How Much do I Need?



Many Waste Facilities require Different Volumes – Composites Vs Grabs

Lab needs 16 oz Jar plus a 4 oz for TCLP VOAs

Concrete – Must be Crushed Per the TCLP Method if Solids are >3.1 cm Square.

Example A

Site Type Petroleum Contaminated Soil	Sampling Frequency & Testing Requirements	ЕРН	Home Gen Cert	Total VOCs 8260B	PP Metals 6010B	Paint Filter 9095	SVOCs 8270C	PCBs 8080	Sulfur	Pesticides	TCLP
Residential < 20 CY/30T	1 sample per 30T	X	X								
Residential > 20CY/30T	1 Composite Sample per 800 CY / 1200T			X**	X	X					****
	1 Composite Sample per 100CY / 150T	X									
Commercial	1 Composite Sample per 800 CY / 1200T			X**	X	X					****
	1 Composite Sample per 100CY / 150T	X*									
Coal Tar / MGP soil	1 Composite per every 500 CY/ 750T	X		X**	X		X	X	X		****
Unknown Source / Historic or Urban Fill	1 Composite Sample per 800 CY / 1200T			X**	X***	X	X	X		X	****
	1 Composite Sample per 100CY / 150T	X									
Street Sweepings	1 Composite Sample per 800 CY / 1200T			X**	X***	X	X	X		X	****
	1 Composite Sample per 100CY / 150T	X									
Potable Water T.R. / CFM	1 Composite Sample per 800 CY / 1200T	X		X**	X***	X	X	X		X	****

^{*} EPH or DRO is acceptable for Diesel Range contamination. GRO is required for Gasoline contamination. Mixed Fuels require both EPH and GRO.

Acceptance of all projects are subject to the completion and review of a completed "PROFILE SHEET", the criteria noted above, and approval as granted by Bayshore Soil Management, LLC.

At the discretion of the facility, additional analysis may be required for project acceptance. For soils originating from substations/generating/switching stations or industrial sites, analysis for PCBs and SVOCs are requested.

It should be noted that soil with moisture content in excess of 18% per ASTM Standard Test Method D 2216-05, will be subject to a surcharge.

The amount of debris acceptable is 1% by volume; and any stone, brick, block and/or concrete should be 12 inch minus.

For materials to be considered for acceptance as clean to BRC, TCL/TAL+30 must be provided, along with EPH & PFT

^{**} Discrete sampling for VOCs per NJDEP requirements is acceptable.

^{***} TAL Metals List required.

^{****} TCLP will be required for any parameter which exceeds the RCRA 20X Rule.

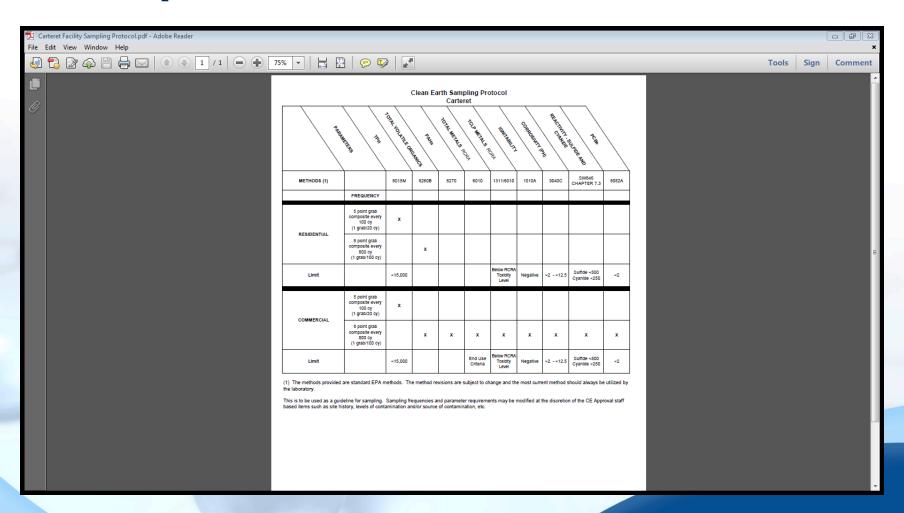
Facility A

8 Point Composite

One sample Per 100 Cubic Yards

TCLP Not needed if 20 Time Rule limits are meet

Example B

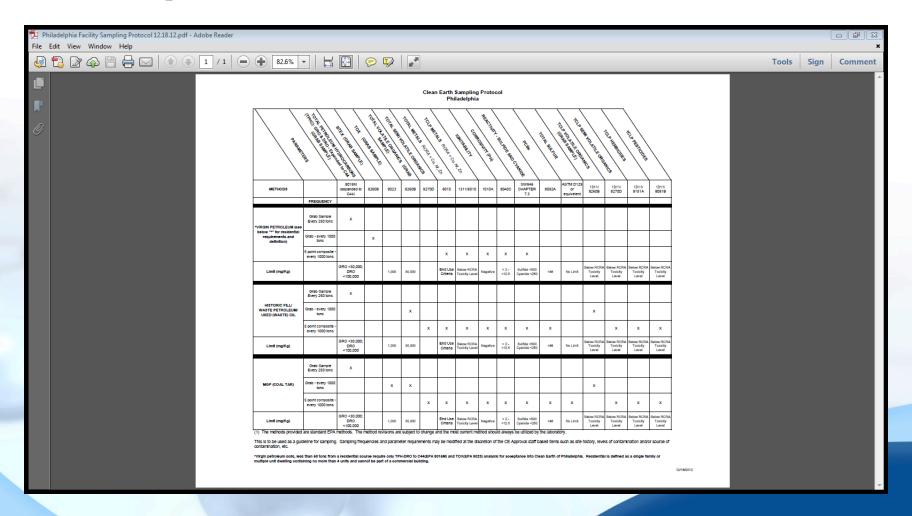


Facility B

Again – 8 point Composite (100 cy per Grab)

TCLP Metals only but Up Front

Example C



Facility C

5 point Composite

Requires Cu, Ni, & Zn to be Added to the TCLP Metals.

TCLP VOA's must be a Grab sample



Joseph-Mark Mirabella

NJ Department of Environmental Protection Hazardous Waste Enforcement

Central Region

- Mercer, Middlesex, Monmouth,
 Ocean and Union Counties
- P.O. Box 420 Mail Code 09-03
- 9 Ewing ST. 3rd Floor
- Trenton, NJ 08625-0420
- Desk: (609) 292-3962
- Cell (609) 273-4970
- Main: (609) 943-3019
- Fax: (609) 292-3970



Rookie Me 1984

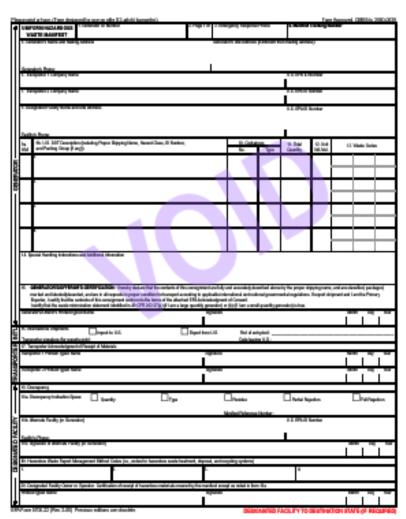




Hazardous Waste Manifest Section

Bret Reburn (609) 292-3949

- Appendix to 40 CFR Part 262 - Instructions
- SQGs & LQGs required to ship waste using hazardous waste manifest form.
- Must keep copies for 3 years.



Exception Reporting Requirements

• LQGs:

- Generator must contact initial transporter or the TSDF operator within 35 days of shipping date to obtain TSDF signed manifest copy.
- Generator must submit to NJDEP written exception report within 45 days of shipping date.

SQGs

- Not required to submit exception report.
- After 60 days Generator must submit to NJDEP a copy of manifest with note that signed TSDF copy is missing.
- Keep for 3 Years

Biennial Report

 LQGs required to submit a report every two years summarizing waste shipments such as waste types, quantities, transporter and TSDF facilities utilized.

 Submitted in even numbered years for previous (odd) years generation

BIENNIAL REPORT INFO:

- Provides EPA/States a summary of haz. waste generation/management
- Helps EPA measure compliance with regulations & waste minimization
- Is summarized/communicated to the public through the National Biennial RCRA Hazardous Waste Report

WHO IS REQUIRED TO SUBMIT BIENNIAL REPORTS?

 Facilities that were LQGs during previous (oddnumbered) year

 Facilities that treated, stored, or disposed of RCRA hazardous wastes on-site during previous (odd-numbered) year

- 166,000 NJ Manifests per Year
- 20% Error Rate

- Wrong EPA ID #
- EPA ID # Does Not Match Name
- Legibility Sloppy, Too Light, Blurry, Off Center
- Gen/Trans/TSDF Dates NOT in Sequential Order
- No Signature or Date
- Signature in Wrong Place
- Transporter Signing for Generator Without Written Agreement - Generator Not at Site When Pickup

- Quantity and Weight Blank
- Quantity Not Accurate
- Quantity Discrepancy Over 10% (way over sometimes)
- Quantity Reflects Container Size Not Actual
- Shipping Description Wrong
- Emergency Phone Number Wrong Can be Multiple 9b.

- Need Page Numbers
- No Signed Copy or Exception Report on Site
- No Manifest/Failure to Determine
- Wrong HW Codes

Can Be Anything!

CORRECT MANIFEST

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	O. Warragorier 1 Company Name F. REE 14018 CARTAGE 7 Yearsporter 2 Company Name	CNC		US EN DA	De	0518	261	69
	8. Designated Facility Name and Situ Address EQ OPETROOT 1923 FREDERINGK STREET OPETROOT, M4 452311	F 22 F	- " -	U.S. EPA ID No.	98023718			
	Facility's Phone: #00, 454, 5040 Fac: Mr. U.S. COT Description (Industry Proper Shipping Norms, Hazard Class, ID Number.	10. Contain	Type	11, Total	12. Unit WLOVE	.13. V	Viene Certes	
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Ensure Accuracy

- All sections important!
- Generators responsible for accuracy
- Even if Offeror completes it
- Proofread for accuracy
- Compare to previous manifests

E-Manifest

- Design and Develop Stage Fully Funded
- Operational in <u>3 Years</u> then Continued in Phases
- EPA and Most States No Manifest Tracking System
- In Most States Only Generators and TSDFs Have Manifests Copies

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E-Manifest

- Therefore New Jersey on Design Team for EPA
- Design & QA/QC Issues
- Working Straw Electronic System
- Will be National Data System
- Paper Manifest Will Still be Acceptable EPA Will Double Enter Data
- \$ Fees for E-Manifests

LABELING

******** IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY, THE U.S. ENVIRONMENTAL PROTECTION AGENCY OR THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION. GENERATOR INFORMATION: NAME EPA / MANIFEST ID NO. / DOCUMENT NO. **ACCUMULATION** WASTE NO START DATE ___ D.O.T. PROPER SHIPPING NAME AND UNIOR NAINO, WITH PREFIX Primed by LACELMASTER, DV of AMERICAN LAGELMARK CO., CHICAGO, IL 60548

LABELING

- Containers Accumulation Area
- Containers Satellite Areas

Tanks

LABELING ERRORS

- No Label or Not Visible
- Not Marked "Hazardous Waste"
- Missing Dates
- Illegible
- Washed out
- Falls Off
- Satellite Containers Not Dated After 55 Gallons
- Tanks Without Labels













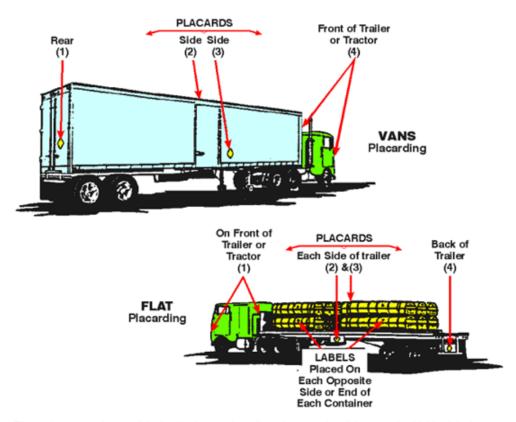


PLACARDING Bob Gomez (609) 292-3837





PLACARDING



Placards are just bigger labels which are placed on the outside of the vehicle. Unlike labels, there is only one placard and no information need be written on it (i.e. no Tl). In fact, a placard on a vehicle is only required if the vehicle is carrying a package bearing a Yellow 3 label or LSA material. If the amount of the material being transported constitutes a highway route controlled quantity, the diamond shaped placard has a black square border surrounding it.

Hazardous Waste Labeling vs. Marking

- The DOT reference to a label is very specific. Labels refer to the diamond-shaped hazmat logos placed on non-bulk containers, and resemble bulk container placards. Everything else on a non-bulk package is a marking.
- Hazardous Waste Labeling
- The design and size of labels are based on international standards and are used to identify the hazards within the container. Each diamond (square-on-point) label measures at least 100mm (4" x 4") on each side as prescribed in 49 CFR 172.407(c)(1).

DOT LABELING & PLACARDING



inted for 8.14 instances work the top 10 rds were not ired. e of the top 1 e that you ca	als registration number with the truck. At 2,823 violations 4% of the total violations. Following at a close second, is then packages were not secured in the vehicle. I violations have to do with placarding requirements. In a tinere at all and in some cases, the placards were damaged of the placards were damaged of the shipping papers. For instance annot carry the shipping papers in a clipboard that has a clearly marked the clipboard to indicate that it contains the clipboard that the clipboard to indicate that it contains the clipboard that the clipboard the clipboard that the clipboard t	nspectors found some cases the aged or e, did you i metal cover	
s look at the	top 10 hazmat transportation violations by trucks uncov		
tegulation	Violation Description	# of inspections	# of violations
9 CFR 07.620	No copy of US DOT hazardous materials registration number	2,822	2,823
9 CFR 77.834	Package not secure in vehicle	2,603	2,669
9 CFR 72.516	Placard damaged, deteriorated, or obscured	2,119	2,419
9 CFR 72.504	Vehicle not placarded as required	1,901	2,044
9 CFR 77.817	No shipping papers (Camier)	1,754	1,780
9 CFR 77.817	Shipping paper accessibility	1,641	1,646
9 CFR 72.602	Emergency response information missing	1,540	1,547
9 CFR 72.502	Failure to provide carrier required placards	1,450	1,519
9 CFR 72.200	Offering a hazardous material without preparing a shipping paper. (None at all)	1,009	1,032
9 CFR 77,823	No placards/markings when required	912	1,005
	ICSA Motor Carrier Management Information System short by a DOT hazmat inspection. Check out the follow	ing materials be	fore shipping c

PLACARDING

Bob Gomez (609) 292-3837

- Shipper/Transporter Joint Responsibility
- Poor Training of Drivers and Personnel
- Missing or Poor Condition
- Poor Condition
- Blocking of Visibility
- Not Visible from All Sides
- Lack of Contrasting Color with Vehicle
- Wrong Hazard Class

PLACARDING PROBLEMS



PLACARDING PROBLEMS



PLACARDING PROBLEMS





TRAILER INSPECTION CHECKLIST

Trailer # Date: Destination: Flanders
Manifest Number(s): See Attachment for Manifest Numbers
Container Integrity & Lebeling:
tellula.
Inspect all containers for leaks, stains, cracks, signs of pressure (swoten or bulged) 1
Verify that all containers are properly closed as follows: 1 a. Closed Head Drums - Bungs must be closed with torque wrench to the proper
PSI. b. Open Head Drums - Rings must be closed to within 1/4 inch with lock-nut in
 place. c. Fibor Drums – Must be wrapped 3 times with proper tape.
Check trailer condition (no debris or spills, no holes in trailer).
Verify that total piece count matches the manifests. 3
Verify that all waste containers have proper DOT hazard class and shipname labels. *
Verify that product containers have proper DOT hazard class and shipname labels. *
Segregation (PLC = Pack Lab Containers): 1
Class 8 liquid containers cannot be loaded with Class 4.2 unless, the Class 4.2 is PLC (<22bs total weight) and both Class 4.2 and Class 8 Liquid containers must be on pallets and separated by 4-feet.
 Class 8 liquid containers cannot be above of adjacent to the following: Class 4.1, Class 4.3, Class 5.1, Class 5.2.
Class 3 liquid containers must be separated from Class 5.1 by 4-feet.
Class 2.3 Zone A gases must be packaged and shipped using DOT-SP 11043.
Class 6.1 PGI Zone A liquids must be packaged and shipped using DOT-SP 9168.
 Reactive Cyanides (D003, P030) cannot be loaded with Inorganic Acids; unless, the Cyanides are PLC (<22bs total weight) and both the Cyanides and the Acids are on patiets and separated by 4-feet.

TRAILER INSPECTION CHECKLIST

Page 2 of 2
Load Securement and Placarding:
 All cargo must be restrained against horizontal movement by vehicle structure or by other cargo.
Verify that the rear door is locked or secured in compliance with the DOT Security Plan.
All Placards are attached and completely visible on all sides. 3
Certification (DOT Certified Employee): 2
Print Name:
Signature:
Date:



Note: All items on this form MUST be completely filled out. If an item does not apply, put a "-" or "N/A" on that item. This form must be completely filled out or the vehicle cannot leave the yard.

1. Meterial Handler

2. Office Personnel

Material Handler & Office Personne

PLACARDING

- Where to Find More
- Information . . .
- http://hazmat.dot.gov

LDR - 40 CFR Part 268 EPA Don Smith (303) 462-9111

- Prohibit land disposal of high-risk/high volume wastes
- Protect groundwater from buried waste leachate
- Develop treatment standards Best Demonstrated Available Technology (BDAT)

Land Disposal Restriction Form

 SQGs and LQGs required to use Land Disposal Restriction Notification or Certification Form for initial shipment and if waste stream changes.

 Must keep copies of form for 3 years from shipping date.

Land Disposal Restriction

40 CFR Part 268

- Requires <u>Treatment of HW</u> Prior to Disposal
- Stds Designed to <u>Minimize Long-term Treat</u> to Human Health & Environment
- All HW (almost) Subject to <u>Stds</u> in 40 CFR Part 268.40 Table
- Must Meet Stds <u>Before</u> Land Disposal
- Alternate Stds for Debris, Lab Packs & Soil
- May Petition EPA for Non-Migration <u>Variance</u>
- Generator has Primary Responsibility to Determine if HW meets LDR Stds
- Generator Must Communicate this to TSDF in Writing

BASIC GENERATOR LDR RESPONSIBILITIES

- 1) Determine All LDR Waste Codes at Initial Point of Generation
- 2) Determine Applicable Treatment Stds
- 3) Identify "Underlying Hazardous Constituents"

4) Keep Records for 3 Years

LDR Restriction Notification & Certification Form <u>Issues</u>

- No Standard Form (simple/complex) Confusion
- One Initial Per Waste-Stream + Copy on File
- Inspectors Most Generators Attach to Every Manifest
- Inadequacies, Look for Completeness:
- E.g. All Waste Codes, Wastewater vs Non, Sub-Category, UHCs, Specific F-Code Const.
- Must Follow Requirements Table 268.7(a)

LDR NOTICES 40 CFR 268.7(a)

The generator of a hazardous waste must determine all applicable land disposal restrictions at the point of generation of the waste. The generator must keep records demonstrating that the proper treatment standards have been identified. [40 CFR 268.7(a)(6)]

When the waste is shipped off site, a notification, and in some cases a certification, must be made to subsequent handlers of the waste (treatment, storage, and disposal facilities) documenting the LDR status of the waste. [40 CFR 268.7(a)(2)-(3)]

Generator Paperwork Requirements Table, §268.7(a)

	Notification— Requires Treatment	Meets LDR Standards	Notification— Exemption/ Variance	- Lab Packs
Required information	§268.7(a)(2)	\$268.7(a)(3)	§268.7(a)(4)	§268.7(a)(9)
 EPA Hazardous Waste Numbers and Manifest Number of first shipment. 	·V	~	~~	V 1
 Statement this waste is not prohibited from land dis- posal 			V .	
3. The waste is subject to the LDRs. The constituents of concern for F001-F005, and F009, and underlying hazardous constituents in characteristic wastes, unless the waste will be treated and monitored for all constituents. If all constituents will be treated and monitored, there is no need to put them all on the LDR notice.				
 The notice must include the applicable wastewater/ nonwastewater category (see §§268.2(d) and (f)) and sub- divisions made within a waste code based on waste-ope- cific criteria (such as DOO) reactive cyanide) 				
5. Waste analysis data (when available)	-		V.	
6. Date the waste is subject to the prohibition	7		-	
7. For hazardous debris, when treating with the alternative treatment technologies provided by §268.45: the contami- nants subject to treatment, as described in §268.45(b); and an indication that these contaminants are being treated to comply with §268.45				
8. For contaminated soil subject to LDRs as provided in \$268.49(a), the constituents subject to treatment as described in §268.49(d), and the following statement: This contaminated soil [does/does not] contain listed hazardous waste and [does/does not] exhibit a characteristic of hazardous waste and [is subject to/complies with] the soil treatment standards as provided by §268.49(c) or the uni-				
versal treatment standards 9. A certification is needed (see applicable section for exact wording)		-		V

LDR Restriction Notification & Certification Form Issues

- Manufactures Know Their Processes Usually Okay
- Unknowns e.g. Cleanups Problematic Look for Analysis
- TSDF Typically Provides Guidance and Forms
- DEP Refers Complex LDR Issues to EPA
- Sampling by EPA National Enforcement Issues Center
- Recently Sampled at TSDF in Elizabeth

LDR FORM (SIMPLE)

		Olsposal Restrictions	
	LDR NOTIFIC	ATION/CERTIFICATION FR 268.7(a)(3)] Example	
		· ·	t"
To: Scottie Terrier		Date:	
TSDE Top Hat TSU	er .	Manifest Document #:	
Address: 10101 Par Park Piace, NY 1010	k Avenue,	000000001DDD	i'
From: Rich Uncle P			
Generator Monopo		EPA TOM:	2
Address: 20202 Atla Boardwalk, NJ 1020	ntic Boulevard	ara ibw	. 6
Waste Code(s) (Subcategory) 003, First	Treatability Group Nonwastewater	Constituents (40 CFR 268.40)	
XXX, First		Acetone	,
oor, rust	Nonwastowater	Chromium	. (
	Underlying Hazard	ous Constituents (40 CFR 268.48)	ζ.
eact	Cadminon	Silver	€.
			<
te complies with the	y of law that I person esting or through kno- te treatment standary	mally have examined and am familiar with the waste wledge of the waste to support this certification that the is specified in 40 CHR part 268 subpart D. I believe that te, and complete. I am aware that there are significant including the possibility of a fine and imprisonment.	
vature		Date	(
		LAKE	. c
			<
28	© 2014 Uan Tech	nelogy Inc., Lafeyerts, Nr 67848	

LDR FORM

SECTION 1 Genera	tor Information			
Generator Name:			WASTE EX	XPRESS® Approval Code:
Address) 1 4 : : : 1 // .	, ,
Address:			Manifest #:	
			EPA ID#:	
SECTION 2 Material NOT Subject To Land Disposal Restrictions The Land Disposal Restrictions as stipulated in 40 CFR 268 DO NOT apply to these waste materials because: The waste material is NOT regulated by the EPA. The waste material is regulated by the EPA, but is subject to a variance, extension or exemption to the effective data.				
EPA Code	Subcategory	Treatability Grou	р	Effective Date
SECTION 3 Waste Material Subject To Disposal Restrictions Note: WASTE EXPRESS® DOES NOT ACCEPT EPA regulated wastewaters and dioxin-containing wastes (F020 – F023 and F026 – F028) The shipment contains F001 – F005 spent solvents; complete "F001 – F005" The shipment includes F039 multi-source leachate; complete "F039 and Universal Treatment Constituents" The shipment includes D001 and/or D002 waste prohibited under 40 CFR 268.37, and/or D012 – D043 Characteristic Wastes prohibited under 40 CFR 268.38; complete "F039 and Universal Treatment Constituents" The shipment includes RCRA Section 3003(d) California List wastes; complete "California List Constituents" The shipment includes other Land Disposal Restricted wastes; identify below:				

Hazardous Waste Description	Constituents Of Concern
F001 – Spent Halogenated Solvents used in Degreasing	Carbon Tetrachloride Methylene Chloride Tetrachloroethane 1,1,1-Trichloroethane Trichloroethylene 1,1,2-Trichlorol,2,2-trifluoroethane Trichloromonofluoromethane
☐ F002 – Spent Halogenated Solvents	Chlorobenzene o-Dichlorobenzene Methylene Chloride Methylene Chloride (wastewater from the Pharmaceutical industry) Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Trichloroethane Trichloroethylene 1,1,2-Trichlorol,2,2-trifluoroethane Trichloromonofluoromethane

☐ F003 – Spent non-halogenated Solvents	Acetone n-Butyl Alcohol Cyclohexanone ¹ Ethyl Acetate Ethyl Benzene Ethyl Ether Methanol ¹ Methanol Isobutyl Ketone Xylenes (total)
☐ F004 – Spent non-halognated Solvents	Cresol (m- and p-isomers) o-Cresol Nitrobenzene
☐ F005 – Spent non-halognated Solvents	Benzene Carbon Disulfide ¹ 2-Ethxyethanol Isobutyl Alcohol Methyl Ethyl Ketone 2-Nitropropane Pyridine Toluene

	F039 AND UNIVERSAL TREATMENT [Check the line that applied	
•	udes F039 multi-source leachate. The individu on the following pages.	al constituents likely to be present are
waste and is prohi	udes a D001 or D002 waste prohibited under 2 bited under 268.38. The underlying hazardous elow or on the following pages.	268.37 and/or D012 – D043 characteristic constituents in the waste, as defined in 268.2
EPA Code	Constituent/Subcategory	Treatability Group
☐ Acetone ☐ Acenaphthylene ☐ Acenaphthene ☐ Acetonitrile	CONSTITUEN Chlorobenzilate 2-chloro-1.3butabien Chlordibromomethane Chloroethane	☐ Dielderin ☐ Diethyl phthalate ☐ p-Dimethylaminoazobenzene ¹ ☐ 2.4-Dimethyl phenol

SECTION IV Lab Packs	
EPA Code(s):	
Lab Packs with EPA Code(s) specified by 40 CFR 268 Appendix IV must be reference in Section III of t form and may not be packaged or manifested for alternative lab pack treatment standards.	his
As required by 40 CFR 268.7(a)(8), the following certification is made for these restricted wastes: I certify under penalty of law that I personally have examined and am familiar with the waste and that the pack contains only the wastes which have not been excluded under appendix IV to 40 CFR Part 268 or wastes not subject to regulation under 40 CFR Part 261. I am aware that there are significant penalties submitting a false certification, including the possibilities of fine or imprisonment.	solid
SECTION V Certification	
CERTIFICATION FOR MATERIALS MEETING LAND DISPOSAL TREATMENT STANDARDS	

I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support his certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D and all applicable prohibitions set fort in 40 CFR 268.32 or RCRA section 3004(d). I believe that the information I submitted is true, accurate and complete. I am ware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

CERTIFICAT	TION FOR MATERIALS NOT MEETING LAND DISPOSAL TREATMENT ST	randards
testing or through kno	of law that I personally have examined and am familiar with the waste through wledge of the waste and I believe that the information I submitted is true, accur that there are significant penalties for submitting false certification, including the t.	ate and
-	Authorized Representative Signature	
-	Print or Type Name	
_		
	Title	
-	Data	
	Date	



Cushood Stecture Environmental Transferen

Instructions - Land Disposal Restrictions (LDR) Notification and Certification Form

Note: LDR forms are required with all hazardous waste shipments. LDR forms are also required with non-hazardous waste shipments that were hazardous as ginerated but rendered non-hazardous by performents.

The Duffner Chambers Works Wastewater Treatment Plant (WWTF) is regulated under the Clean Water Act.

- Provide the following information
- Generator's EFA ID Number. Enter the 12-character alpha numeric descriptor issued by the U.S. EPA to the facility generating the waste.
- Hazardous Waste Manifest Number, Enter the munifest number from the Hazardous Waste Manifest necessarying the waste shipment.
- . Generator, Enter the name of the waste generating facility
- Generator's Address. Enter the site investors of the generating facility.
- Manifest Page Number/Line Letter (for drummed aqueous waste only). Enter the manifest page number and line letter.
- Indicate if waste analysis information is attached or is not available.

S.A. EFA Hausdan Wate Coles

Check (if applicable) the characteristic U.S. EPA boundoos waste codes that apply to this waste.

Wastewater or Non-wastewater

 For each waste code checked, use the definitions below to identify whether the waste is a wastewater or non-wastemater.

Wastewater, Any wase that contains <1% TOC and <1% TSS.

Max-mantemater. Any wants that does not most the definition of wantement.

and the first transfer of the same transfer of the

- For each veste code checked, indicate how the waste sunt be managed. Using the six description that follow, write the latter (A, B, C, D, E, F) of the description that corresponds to the status of the waste under 40 CFR 208.F.
- A. The waste requires treatment before land disposal [40 CFR 268.7(a)(2)].
- B. The waste meets the applicable standards specified in 40 CFR Part 208 subpart D as the original point of grocosius (40 CFR, 208-7000)).
- \mathbf{C} . The waste is nearly identified or nearly listed.
- D. The waste is except from the Land Disposal Restrictions. Indicate the remon, and enter the date on which the waste will be subject to prohibitions (40 CFR 268.7(4))(4).



DuPont Secure Environmental Treatment

- E. The waste has been pretreated on-site to remove the hazardous characteristic and requires treatment of underlying hazardous constituents [40 CFR 268.7 (b)(4)(iv)]. It is not necessary to notify the WWTP as to which underlying hazardous constituents are present in the waste because the WWTP is regulated under the Clean Water Act and treats and monitors all constituents.
- F. The waste has been pretreated on-site to remove the hazardous characteristic and to treat underlying hazardous constituents to levels in 40 CFR 268.48 Universal Treatment Standards [40 CFR 268.7(b)(4)(v)].
- 4. TABLE B

U.S. EPA Hazardous Waste Code

Identify all additional characteristic, listed, newly identified, and newly listed U.S. EPA hazardous waste codes that apply.

(Note: Use Attachment I if more room is needed to list all applicable waste codes.) For each waste code, complete the following:

Subcategory

 Identify the corresponding subcategory either by writing in the subcategory description or by checking "None."

Wastewater or Non-wastewater

 Indicate whether the waste is a wastewater or non-wastewater. (Refer to the instructions for TABLE A above.)

How Must the Waste Be Managed?

- Indicate how the waste must be managed. (Refer to instructions for TABLE A on Page I of instructions.)
- 5. If this waste is a spent solvent (F001-F005), you MUST include Attachment II, Treatment Standards for F001-F005 Spent Solvents. Mark the box beside the appropriate code(s) that apply to the waste. You are not required to mark individual constituents present in the waste because the WWTP is regulated under the Clean Water Act and treats and monitors all constituents.
- 6. If the waste is a multisource leachate (F039), you may include Attachment III, Treatment Standards for F039 Multisource Leachate Wastes. You are not required to include the attachment or to mark individual constituents present in the waste because the WWTP is regulated under the Clean Water Act and treats and monitors all constituents.
- 7. If this waste is characteristically hazardous, you may include Attachment IV, Universal Treatment Standards. You may also include Attachment IV for non-hazardous waste, which was characteristically hazardous as generated but rendered non-hazardous by pretreatment. You are not required to include the attachment or to mark individual constituents present in the waste because the WWTP is regulated under the Clean Water Act and treats and monitors all constituents.

CERTIFICATION: An authorized employee or agent (authorized in writing) of the generator must sign and date the completed Land Disposal Restrictions Notification and Certification Form. A current signature and date are required with each shipment.



DuPont Secure Environmental Treatment

otification as	d Certification Fo	m
OW/OW No.		П
Release No		.
		_

Chambers Works Wastewater Treatment Facility Land Disposal Restrictions

Generator's EPA ID No. Generator's Address	Hazardous Waste Manifest No. Manifest Page No./Line Letter (For deasured squorus waste only)
Note: The DuPost Chambers Works Wastewater Treat	ment Flant (WWTF) is segulated under the Clean Water Act.

- 2. Is waste analysis information attached? Yes | Not available
- In Table A, check (if applicable) the characteristic U.S. EPA horse-force wome codes that apply to this warm. For each
 waste code checked, identify whether the waste is a wastewaster or asso-wastewater, and indicate loave the waste assort be
 managed based on the options found on page 2.

TABLE A

Check Weste	U. S. EPA Hazardous	Sebcetegory	Waste- water*	Non- Waste- water	Now must the waste be managed?
Code	Waste Code		(Check	only one)	(Enter the letter from page 2)
	D001	Low TOC (<10% TOC)	[.]	IJ	
11	D001	High TOC (>=10% TOC)	NA	111	
	D001	Oxidizer	100	(3)	
	D002	Acid (pH <=2.0)	1.1	1.1	
	D002	Alkaline (pH >=12.5)	CL	C1	
	D002	Other Corrosives	0.1		
	D003	Reactive Sulfides	1.1	1.1	
	D003	Water Reactive	(3)	1.1	Ö
Ö.	D003	Other Reactives	1.1	(.)	
	D004	Arsenic	1.0		. 0
	D005	Barium	E.I.	- 13	
	D006	Cadmium	100	- iii	
	D007	Chromium	103	C1	
	D008	Lead	(3)	(I)	(1)
ň	D009	Mercury	- 10	NA	
	D009	Low Mercury, <260 mg/kg Hg	NA.		Ö
	D010	Selonium		(G	0
Ħ	D011	Silver	111	i i	n n

^{*}Wastewaters contain <1% TOC and <1% TSS

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Notification and Cortification Fore

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Instructions (cont.)



 Generator's EPA ID No. _ Generator. Generator's Address

D008

D009

D009

D010

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Lead

Mercury

Selenium Silver *Wastewaters contain <1% TOC and <1% TSS

Low Mercury, <260 mg/kg Hg

DuPont Secure Environmental Treatment

OW/DW No.

Release No.

Hazardous Waste Manifest No.

Manifest Page No./Line Letter (for drummed aqueous waste only)

Notification and Certification Form

In To	ble A, check	iformation attached? Yes (if applicable) the characteristic U.S. EPA I d, identify whether the waste is a wastewater the options found on page 2. TABLE	r or non-wastewa	codes that ap		
hock Vaste	U. S. EPA Hazardous	Subcategory	Wasto- water*	Non- Waste- water	How must the waste be managed?	
codo	Waste Code		(Check	(only one)	(Enter the letter from page 2)	
3.	D001	Low TOC (<10% TOC)	11			
1	D001	High TOC (>=10% TOC)	NA	1.1		
	D001	Oxidizer	1.3	- (3		
	D002	Acid (pH <=2.0)	(.)	1.5		
	D002	Alkaline (pH >=12.5)	C!	- (3		
3	D002	Other Corrosives	[]	1.3		
.1	D003	Reactive Sulfides	1.1	1.1	8	
3	D003	Water Reactive		()	L.J.	
.1	D003	Other Reactives	1.1	1,1	. 🛚	
	D004	Arsenic	1.3	£.1		
	D005	Barium	[C]			
	D006	Cadmium	- 1	<u> </u>		
	D007	Chromium	(3)	C3		

Chambers Works Wastewater Treatment Facility Land Disposal Restrictions



DuPost Secure Environmental Treatment

Chambers Works Wastewater Treatment Facility Land Disposal Restrictions

4. In Table B, identify all additional characteristic, listed, newly identified, and newly listed U.S. EPA hazardess want codes that apply to this wests. For each want code, identify the solvestigner, indicate whether the wests is a wassensiter or non-materiastic, and include lower lower ones to manage, hazard on the copions below.

YARL	0.0				
EPA RDOUS STE BUBCATEGORY		Waste- water	Non-waste- water	THE WASTE BE MANAGED?	
			Check	Enter the	
Description	None	only one)		options below*	
		-			
		-			
	_	-	-		
	BUBCATEGORY		BUBCATEGORY Water	SUBCATEGORY Water Non-waste- water (Chrick	

- If this waste is a spent solvent (F001-F007), you MUST include Attachment II, Treatment Standards for F001-F005 Spent
- If this waste is a multiscorce leachate (F009), you may include Attachment III, Treatment Standards for F009 Multisource Leachate Wasten.
- If this warte is characteristically bacacdous, you may include Attachment IV, Universal Treatment Standards. You may also include Attachment IV for non-hazardous waste which was characteristically bacardous as generated but sende non-harardous by pretreatment.

**EDOW MENTY THE WASTE BE NAVAGEED (Choice from the following options to complete Tables A and B.)

B. Berichted words region in convenient (FYT) EAS ALOCES.

B. Berichted words reaches applicable tourisment standbells

CONTRACTORS CENTRACTORS (CENTRACTACE) (18 CENTRACTORS (CENTRACTORS CENTRACTACE).

the possinearly of time and improvements.		
CERTIFICATION I considy that, so the best of any knowledge, the information	growided in this document is true, w	course, and complexe.
Authorized Signature	Title	Date

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Monification and Certification Form

Page 2 of 2

Page 1 of 2 Notification and Certification Form

NA

NA



DuPort Secure Environmental Treatment

Attachment I

Identify all characteristic, listed, newly identified, and newly listed U.S. EPA hazardous wante codes that apply. For each waste code, identify the subcategory, indicate whether the waste is a wastewater or nemwastewater, and indicate how the waste mast be managed based on the options found on page 2.

(continued from Table B)

	(continued from Table B)									
U.S. EPA HAZARDOUS WASTE	SUBGATEGORY	Wasto -water	Non-waste- water	HOW MUST THE WASTE BE MANAGED?						
CODE(8)				Check	Enter the					
Per 40 CFR 261	Description	ci	ily cna)	letter from options below*						
		_								
		_	_							
		_	-							
		_	_							
		_	-							
		_								
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		$\overline{}$								
		-	_							

^{*}Wastewaters contain <1% TOC and <1% TSS.

Rev. 4 (8/05) Attachment 1 Page 1 of 1



DuPont Secure Environmental Treatment

Attachment II

Treatment Standards for F001-F005 Spent Solvents

Instructions: Mark the box Service the appropriate code(s) included in the shipment. Mark the individual constituents present in the waste,

"You are not required to made the individual constituents present in the waste because the DuPeni Wassewater Treatment Flust (WWFP) is negatived under the Chair Wasse Act and bests and unsolves all constituents.

	Hazardous Waste Description	Constituents of Concern	Wastewater Total Composition (mg/L)	Nonwastewater Total Composition (mg/kg)
			0.28	160
	1 444 5 444 444 444	_ Denzene	0.14	10
	(Contains any combination of	n.Hutyl s/cohol	5.6	2.6
	one or make or many of	Carpen disulfide	3.8	NA
	solventi)	— Carbon tetrachloride	0.057	6.0
		- Chlorobenzese	9.017	6.0
		— o Central	6.11	5.6
		_ m-Cresol	9.77	5.6
		_ p-Creed	0.77	5.6
		Cresols-mixed inomers (Contribe act		11.2
		- Cyclobevanous	0.16	NA
			0.088	60
		_ e-Dichiorobensene	0.34	33
		Ethy! nostate	9.077	10
		Ethyl beacers	0.17	160
		_ Ethyl other	5.6	170
		Isobetanol	5.6	NA.
		— Methanol	0.089	30
		Methylene chlorida	0.21	36
		- Methyl ethyl katome	0.14	. 33
		 Mrthyl isobetył ketone 	0.04	14
		_ Nitroberzene		16
		 Pyridise 	0.014	6.0
		Tetrachloracthylene	0.056	10
		_ Teluese	0.060	6.0
		- 1,1,1-Trichloroothese	0.054	
		 1,1,2-Trichloroethane 	0.054	6.0
		 1,1,2-Tricklore-1,2,2-triffsoroethe 		30
		 Trichloroethylene 	0.054	6.0
		- Trichlosomonofivoromethese	0.026	30
		 Xytenes-mixed isomers 	0.32	30
	F003 and/or F005 Solvent Wasters		3.8	4.8 mg/L [TCLP
	(Contains gally one or more of these		0.36	0.75 mg/L [TCL)
	as POOL-POOS solvenor)	Metharol	5.6	0.75 mg/L [TCL]
	F005 Solvent Wantes. (Contains only one of these as	2-Nitropeopase	(WETOX or CHOXD) ^b . CARRIN; or CMRST	смват
	sale FO01-F005 solvers()	2-Ethoxyrtianel	BIODG; or CMB5T	CMMST
	Nov. 4 (MGS)	Assuchment III		Page 1 of L



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DuPont Secure Environmental Treatment

Attachment III

Treatment Standards for F039 Multisource Leachate Wastes Instructions: Mark the constituents present in the wastes.*

*You are not required to include this attachment or to mark the constituents present in the waste because the DuPont Wastewater Treatment Plant (WWTP) is regulated under the Clean Water Act and treats and monitors all constituents.

Constituents Of Concern	Total WW (mg/L)	Composition Non-WW (mg/kg)	Genstituents Of Concern	Total ww (mg/L)	Composition Non-WW (mg/kg)
Accephthylene	0.059	3,4	bis(2-Chloroethyl) ether	0.033	6.0
- Acenaphthene	0.059	3.4	Chloroform	0.046	6.0
Acetone	0.28	160	bis(2-Chloroisepropyl) ether	0.055	7.2
_ Acetonitrile	5.6	38	p-Chloro-m-cresol	0.018	14
	0.010	9.7	Chloromethane (Methyl chloride)	0.19	30
2-Acetylaminofluorene	0.059	140	2-Chloromophthalens	0.055	5.6
- Acrotcia	0.29	NA	2-Chlorophenol	0.044	5.7
Acrylonitrile	0.24	84	3-Chloropropylene	0.036	30
- Ableio	0.021	0.066	Chrysene	0.059	3.4
4-Aminobiphenyl	0.13	NA.	p-Cresidine	0.010	0.66
Amiline	0.81	14	o-Cresol	0.11	5.6
o-Anisidise (2-Methoxyanilise)	0.010	0.66	m-Cresol	0.77	5.6
Authracene	0.059	3.4	p-Cresol	0.77	5.6
Aramite	0.36	NA	Cyclohexanone	0.36	0.75 mg/L
alpha-BHC	0.00014	0.066			[TCLP]
beta-BHC	0.00014	0.066	— 1,2-Dibromo-3-chioropropone	0.11	15
delta-BHC	0.023	0.066	 Ethylene dibromide (1,2-Dibromoethene) 	0.028	
garema-BHC	0.6017	0.066	Dibromomethane	0.11	15
Benzene	0.14	10	2,4+D (2,4-Dichlorophenexyscetic acid)	0.72	
Benz(a)anthracene	0.059	3.4	_ o,p'-DDD	0.023	
Benzo(b)-fluoranthene	0.11	6.8	p,p'-DDD	0.023	
Benzo(k)-fluorunthene	0.11	6.8	o,p'-DDE	0.031	
Benzo(g,h,i)-perylene	0.0055	1.8	p,p*-DDE	0.031	
Benzo(a)pyrene	0.061	3.4	_ 0,p'-DDT	0.0039	
Bromodichloromethane	0.35	15	p.p'-DDT	0.0039	
 Methyl bromide (Bromomethans) 	0.11	15	Dibenz(a,h) anthracene	0.055	
4-Bromophenyl phenyl ether	0.055	15	Dibenzo(a,e) pyrene	0.061	
_ a-Butyl sloohel	5.6	2.6	m-Dichlorobenzene	0.036	
 Butyl benzyl phthalate 	0.017	28	o-Dichlorobenzene	0.088	
2-sec-Butyl-4,6-dinitrophenol	0.066	5 2.5	p-Dichlorobenzene	0.090	
Carbon disulfide	3.8	4.8 mg/L	Dichlorodifluoromethane	0.23	
		[TCLP]	1,1-Dichloroethane	0.059	
Carbon tetrachloride	0.057	7 6.0	1,2-Dichloroethane	0.21	
 Chlordane (slpha & garrina isomers) 	0.0033	3 0.26	1,1-Dichloroethylene	0.025	
_ p Chioroaniline	0.46	5 16	trans-1,2-Dichloroethylene	0.054	
Chlorobenzene	0.05	7 6.0	2,4-Dichlorophenol	0.044	
Chlorobenzilete	0.10	AN 0	2,6-Dichlorophenol	9.04	
2-Chloro-1,3-butadiene	0.05	7 0.28	1,2-Dichleropropane	0.83	
Chlorodibromomethane	0.05	7 15	cis-1.3-Dichloropropese	0.036	
_ Chlocoethane	0.2	7 6.0	trans-1,3-Dichloropropene	0.034	
his(2-Chloroethoxy) methane	0.03	6 7.2	Dieldrin	0.017	7 0.13

Attachment III (cont.)

0.20 0.20 0.019 0.036 0.047 0.857 0.32 0.28 0.12 0.32	(mg/kg) 28 - 0.66 14 28 28 2.3 160	inonfrideKepousMethoxylonitrileMethoxylonitrileMethoxylonitrile	0.081 0.0011 0.24 5.6	2.6 0.13 84 0.75 mg/L [TCLP]
0.836 0.847 0.857 0.32 0.28 0.12 0.32	28 28 2.3 160	Methocylenitribe Methocol Methopyrileon	0.24 5.6	84 0.75 mg/L
0.047 0.057 0.32 0.28 0.12 0.32	28 28 23 160	Methagoi Methagyellon	5.6	0.75 mg/L
0.057 0.32 0.28 0.12 0.32	28 2.3 160	Methapyrilcon		
0.32 0.28 0.12 0.32	2.3 160		0.081	[TCLF]
0.28 0.12 0.32	160		0.001	
0.12			97.000	1.5
0.32	160	Methoxychlor	0.25	0.18
		3-Methylchiolantarroe	0.0055	. 15
0.00	140	4,4-Methylone-bin(2-chiocoaniline)	0.50	34
0.55	28	Minhylene chloride	0.189	34
0.017	28	Methyl ethyl ketone	0.28	34
0.40	14		0.14	33
0.22	170	Methyl methacylate	0.14	160
0.92	13	idetley! medianeult/onate		36/
0.92	13		0.014	4.0
0.087	1.5	Naphthalese	0.029	5.0
0.017	6.2	2-Napickylamine	0.52	N/
0.023	0.066	p-Nitroaniline	0.028	2
0.029	9.13	Nitrobenzune	0.068	
0.029	0.13	5-Nitro-o-toloidine	9.32	
6.0028	9.13	era p-Nikrophonel	0.12	
0.025	0.13		9.40	2
0.34	33	16-2-Utropodianethy lumine	0.40	
0.24	360	N-Nitroso-di-n-butylamine	9.40	
		 N Nitrosomethylethylamine 	0.40	
0.12	160	N-Nitrosomorpholine	0.40	2.
0.28	28	N-Nitrosopiporidine	0.013	
		N-Nitroscopperolidine	0.013	. 3
0.12	NA	- OCDD**	9.000053	
0.017	15	_ OCDF**	0.000063	
0.068	3.4	- Parethion	0.014	
		Total PCBs (sum of all PCB isomers)	0.10	, ,
0.0012	0.066	Pentachlorobenaese	0.055	
0.016	0.066	PeCDDs (Pentachiorodibeazo-p-dioxins)	0.000063	0.00
		PsCDFs (Puntachknodibenzoftware)	0.000031	0.00
		Protachloronirrobenzene	0.053	
		_ Protachlorophesol	0.085	7
		Phenacetia	0.08	
0.05	5.6	Phonundrose	0.055	, ,
			0.035	. 6
			0.010	9 0.0
		- Phorate	0.02	
			0.05	5 ;
		- Pronunide	0.09	1 1
			0.86	7 8
			0.03	4
			9.08	1
			6.7	2 7
	0.33 0.517 0.407 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92	6.32 140 6.55 28 6.617 28 6.62 170 6.69 14 6.22 13 6.692 13 6.692 13 6.692 13 6.692 13 6.692 13 6.692 13 6.692 13 6.693 14 6.693 15 6.693 15 6.693 16 6.694 16 6.694 16 6.694 16 6.694 16 6.694 16 6.694 16 6.695	0.32 140	0.33

Rev.4 (MIS) Attachment III Engs 2 of 3

Attachment LT Page 1 of 3

Attachment III (cont.)

Constituents	Total www (mg/L)	Composition Non-WW (mg/hg)	Constituents Of Concern	Total WW (regil.	Composition Non-WW (mg/kg)
Of Concers	0.72	7.9	Astimony	1.9	1.15 mg/L [TCLP]
= 2,4,5·T	0.055	14	Amenic	1.4	5.0 mg/L [TCLP]
= 1,2,4,5-Tetrachicrobenome	0.900963	0.091	- Durium	1.2	21 mg/L [TCLP]
TCDOs (Tetrachiorodiberon-p-dioxim)	0.000063	0.001	Beryllium	0.82	NA.
 TCDFs (Truschiorodibenzolumns) 	9,857	6.0	_ Cadmium	0.69	0.11 mg/L [TCLP]
- 1,1,1,2-Yesuchloroethane	0.057	6.0	Chromium (Total)	2,77	0.60 mg/L [TCLP]
1,1,2,2-Teorachiorochana	0.057		Cranides (Total)	1.2	590
Tetrachlorously loss	0,030		- Cyunides (Amenable)	0.86	NA.
2,3,4,6-Tetrucklorophenel	0.080		_ Fluoride	35	NA.
Telecov	0.0015		_ Lead	0.69	0.75 mg/L (TCLP)
Taxapbent			_ Murcery	0.15	6.625 mg/L (TCLP)
Bromoform (Tribromomethane)	0.63		_ Nickel	3.98	11 mg/L [TCLP]
1,2,4-Trichlarsbearene	0.015		- Sutroism	0.82	5.7 mg/L [TCLP]
- 1,1,1-Trichloroethane	0.054		- Stiver	0.43	0.14 mg/L [TCLP]
 1,1,2-Trichiproethune 	0.054		Sulfide	14	NA
 Trich/oroethy/core 	0.054		Thaffiam	1.4	N.A.
 Trichioromeno fluoromethuse 	0.026			4.3	N.A.
2,4,5-Trichisephenol	0.18		Vanadium	-	
2,4,6-Trichioropherof	0.035				
 1.2.3-Trichloroprapare 	0.83				
A. S. W. Schleideren, J. S. Red Barranetheren	0.05	7 30			

Attachment III

..... Xylene(s) (sum of mixed insmers) ** [.2,3,4,6,7,8-bgCDD = 1,2,3,4,6,7,8-beptsebbred-brane-p-disorio 1,2,3,4,8,1,8-bgCDF = 1,2,3,4,6,7,8-beptsebbred-brane-brane (2,3,4,7,8-bigCDF = 1,3,3,4,7,8-beptsebbred-brane-brane) (CDD = 1,2,3,4,6,7,8-bc)-brane-bran

0.27

0.32

triu(2,3-dibomopropy() phosphate

.... Visyl chloride

Bay 4 (\$F05)

DuPont Secure Environmental Treatment

Attachment IV

Universal Treatment Standards for Hazardous Wastes

Instructions: Mark the underlying hazardous constituents (UHCs) that are "reasonably expected to be present" [40CFR268 2(i)] in the

*You are not required to include this attachment or to mark the constituents present in the waste because the DuPost Wastewater Treatment Plant (WWTF) is regulated under the Clean Water Act and treats and monitors all constituents.

Constituents	Total WWF (mg/L)	Non-WW (mg/kg)	Constituents Of Concorn	Yotal (WW (reg/L)	Non-WW (mg/kg)
Of Concern	0.019	3.4	_ Curbofuran phenol	0.056	1.4
	0.059	3.4	- Carbon dissifide	3.8	4.8 mg/L
- Acensphilacoc	0.28	160			(ECLP)
Accesses Accessis/ille	3.6	36	Carbon tetrachloride	0.057	6.0
— Approphenous	0.010	9.7	Carborelita	0.028	1.4
Acetylatalnoflocome	0.059	1.00	Chlordanc (sighs & gamma isomers)	0.0033	0.26
- Acretis	0.29		- p-Chloroniline	0.46	16
	19		Chlorobenzene	0.057	6.0
Acrytamide -	0.24		Chiorobenzilate	0.10	NA
Accylonitrile Addieseb suifone	0.056		2-Chiceo-1,3-butadiene	0.057	0.28
- Aldrin	0.021		Chlorodibromomethane	0.057	15
	0.13		Chloroethane	0.27	6.0
4-Anilnobiphenyl	0.81		_ bis(2-Chloroethoxy) methore	0.036	7.2
Anilise O-Aninifies C Methocynnilise)	0.000		- bis(2-Chlocoethyf) ether	0.033	
	0.035		Chioreform	0.046	6.0
Anthropes	0.36		big(2-Chlorolsopropy() ether	0.055	7.2
	0.00014		p-Chloro-en-erosol	0.015	
aiphe-BHC	0.00014		2-Chloroethyl vinyl ether	0.062	N.A.
beta-BHC	0.021		- Chloromethane (Mothyl chloride)	0.15	30
delta-BHC	0.0011		2-Chloronaphthalene	0.055	
gamma-BEIC	0.054		2-Chloropherol	0.014	. 5.7
Barben	0.05		3-Chloropropy/eon	0.034	30
Bendiecarb	0.05		Chrysene	0.001	3.4
- Benonyl	0.1		p-Cresidine	0.000	0.66
- Benzene	0.05		o-Crosel	0.11	
- Benz(shaefarscene	0.05	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	m-Crossl	0.77	5.6
- There all childreds	0.1	,	_ p-Cresol	0.77	5.6
- Becco(b)-fluoresthere	0.1		- m-Cuncupl methylcarbamate	0.05	5 · 1.4
- Benzo(k)-Suorumbene	0.005		_ Cyclobexanone	0.34	
Donzo(g,h,i)-perylene	0.05				[TCLP]
Doze(a)pyrene	9.3		_ eg/4DDD	0.07	0.087
Bromodichloromethace	0.1		_ pul-DDD	0.02	3 0.067
 Become thome (Methyl brownide) 	0.05		_ opt-DDR	0.63	1 0.667
- 4-Dromopheryl phenyl other	5.		- p.ppmg.	0.03	0.087
p-Dutyl alcehol	0.04		_ ogr-DDT	0.003	9 0.087
Blwtyfete	0.01		- pp-DOT	0.003	9 0.087
- Butyl beszyi phthalue	0.04		Dibenz(a,b) authrecome	0.05	5 8.2
- 2-see-Butyl-1,6-disitrophesol (Disoseh)	0.00			0.06	a NA
Carberyl	0.00		1,2-Dibromo-3-chloropropace	0.1	1 15
- Carberzodim	0.00		- 1,2-Dibromoethone (Ethylens dibromids)	0.03	8 15
_ Carbofuran	0.00				

Page 1 of 3 Bay 4 (BRS)

Attachment IV (cont.)

Constituents Of Concern	Total www (mg/L)	Composition Non-WW (mg/kg)	Constituents Of Concern	Total www (mg/L)	Compositio Non-WW (mg/kg)
_ Dibromomethane	0.11	1.5	Famphur	0.017	
- m-Dichtorobenzene	0.036	6.0	Fluoranthese	0.068	3
a-Dichlorobenzene	0.088	6.0	Fluorene	0.059	3
p-Dichlorobenzene	0.090	6.0	- Formetamase hydrochloride	0.056	1
_ Dichlorodifluoremethane	0.23	7.2	Hoptachlor	0.0012	0.00
_ 1.1-Dichloroethane	0.059	6.0	Heptachlor epoxide	0.015	0.00
_ 1,2-Dichloroethane	0.21	6.0	Hexachterobenzene	0.055	
_ I,1-Dichloroethylene	0.025	6.0	1,2,3,4,6,7,8-HgCDD**	0.000035	0.000
trans-1,2-Dichloroethylene	0.054	30	1,2,3,4,6,7,8-HpCDF++	0.000035	0.00
_ 2,4-Dichlorophenol	0.044	14	1,2,3,4,7,8,9-HpCDF**	0.000035	0.00
2,6-Dichtorophenol	0.044	14	Hexachierobutadione	0.055	5
2,4-Dichlorophenoxyacetic acid (2,4-D)	0,72	10	Hexachlorocyclopentadiene	0.057	2
. 1,2-Dichloropropane	0.85	18		0.000063	0.0
cis-1,3-Dichloropropene	0.036	18		0.000063	0.0
_ trans-1_3-Dichloropropene	0.036	18	- Hexachloroethane	0.055	
_ DieMrin	0.017	0.13	Hexachleropropylene	0.035	
_ Diethyl phthalate	0.20	28	Indeno(1,2,3-e,d)pysene	0.0055	
_ p-Dimethylaminoazoberzene	0.13	NA	Iodomethane	0.19	
2.4-Dimetrylaniline (2,4-xylldine)	0.010	0.66	Isobutyl alcohol (Isobutanol)	5.6	
2.4-Dinedry phonel	0.036	14	Isodrin	0.021	0.0
Dissettyl phthalate	0.030	28	Isosafrole	0.081	0.0
	0.057	28	Kepone	0.0011	
Di-n-butyl phthalate	0.037	2,3	- Methacrylonitrile	0.24	_
1,4-Dininobenzene	0.32	160	Methanol	5.6	
4.6-Dinitro-e-cresol	0.12	160	- paramon	3.0	ITC
2,4-Dinitrophenol	0.32	140	Methapyrilene	0.081	110
2,4-Dinitrotolecne		28		0.056	
2,6-Dinitrotoluene	0.55	28	Methiocarb Methonyl	0.028	
_ Di-n-cetyl phthalate	0.017		Methoxychlor	0.028	
Di-a-propyfritrososmine			3-Methylchlolanthrene	0.0055	
_ 1,4-Dioxane	12.0		4,4-Methylene-bis(2-chleroaniline)	0.50	
_ Diphenylamine	0.92			0.089	
_ Diphenylnitrosamine	0.92	-	Methylene chloride		
_ 1,2-Diphenythydrazine	0.087		Methyl ethyl ketone	0.28	
_ Disulfoton	0.017		Methyl isobutyl ketone	0.14	
_ Dithiocarbarnates (total)	0.028		Methyl methocrylate	0.018	
_ Endossifan I	0.023		 Methyl methansulfonate 		
_ Endosulfan II	0.029		Methyl parathion	0.014	
_ Endosulfan sulfate	0.029		Metolearb	0.056	
_ Endrin	0.0028		Mexicarbate	0.056	
_ Endrin aldebyde	0.025		— Molinate	0.042	
_ EPTC	0.042		Naphthalene	0.039	
_ Ethyl ocetate	0.34		2-Naphthylamine	0.52	
_ Ethyl benzene	0.057		— o-Nitronniline	0.27	
Ethyl cyanide (Propononitrile)	0.24		p-Nitroaniline	0.028	
Ethyl other	0.12		Nitrobenzene	0.068	
bis(2-Eihyiliexyl) phthalate	0.28		5-Nitro-e-teluidine	0.32	
_ Ethyl methacrylate	0.14		o-Nitrophenol	0.028	
Ethylene oxide	0.12	NA.	p-Nitrophenol	0.12	ž

Attachment IV (cont.)

Constituents Of Concern	Total www (mg/L)	Composition Non-WW (mg/kg)	Constituents Of Concern		Total WW (mgl.)	Composition Non-IVW (mg/kg)
- N-Nitrosodiethylamine	0.40	28	Texaphene		6.0095	2.6
	0.40	2.3	Triallate		0.042	1.4
N-Nitropy-di-u-butchanine	0:40	17	- Tribectsomethase (Bromoform)		0.63	1.5
N-Nitrosomethylethylamine	0.40	2.3	2,4,6-Tribromophenol		0.035	7.4
	0:40	2.3	1,2,4-Trichlorobenzene		0.055	19
N-Nitrosopiperidine	0.013	35	1,1,1-Trichlorsethane		0.054	6.0
N-Nitrosopyrrolidize	0.013	35	- 1,1,2-Trickloroothase		0.054	6.0
OCDD**	0.000063	0.005	- Trichloroethylene		0.054	6.0
_ OCDF**	0.000063	0:005	- Trichloromonofluoromethane		0.020	39
Oxamyl	0.056	0.28	- 2,4,5-Trichlorophenol		6.18	7.4
Parethion	0.014	4.6	2,4,6-Trichlorophenol		0.035	7.4
	0.10	10	 2,4,5-Trichlorophenoxyacutic acid 	(245T)	9.72	7.9
Pebulate	0.042	1.4	1,2,3-Trichlarapropane		0.85	39
Pentuchiorobengene	0.055	10	1,1,2-Trichloro-1,2,2-triffuoroetha	14	0.057	34
PeCDDs (Pentschlorodiberge-p-diexins)	0.000063	0.001	Triethylamine		0.061	1.5
PeCDFs (Peetschlorod/benzofurne)	0.000035	0.001	 Tris(2,3-dibromopropyl) phosphate 		0.11	0.10
Peatschioroothane	0.055	6.0	Versolate		0.042	1.4
- Pentuchlerenitrobenzene	0.055	4.8	Vinyl shloride		6.27	6.0
Featochforophenol	0.089	7.4	 Xylene(s) (sum of mixed isomers) 		9.32	39
Phonacetin	0.081	16				-
Phenasthrone	0.059	5.6	**			
_ Phenol	0.039	6.2	1,2,3,4,6,7,8-HpCDD = 1,2,3,4,6,7,			
- c-Phenylenediamine	0.056	5.6	1,2,3,4,6,7,8-HpCDF = 1,2,3,4,6,7,8-Heptschlorodibennofuran			
L3-Phonylenediacolos	0.010	0.66	1,2,3,4,7,8,9-ftpCDF = 1,2,3,4,7,8,9-fteptachlorodibenzofuran OCDD = 1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin			
Phorais	0.021	4.6	OCDF = 1,2,3,4,6,7,8,9-Octachloro OCDF = 1,2,3,4,6,7,8,9-Octachloro			
Phthalic acid	0.055	28	OCDE - 1,2,3,4,6,7,8,9-Octobersore	dicenzora	ross.	
Phthalic anhydride	0.055	28		Total	Com	position
- Physostigmine	6.056	1.4	Constituents	WWW	Men	n WW
Physostigmine salicylate	0.056	1.4	Of Congers	(mg5.)	(m	9/40)
Promocarb	0.056	1.4	Antimony	1.9	1.15	mgT. (TCLP)
Pronumide	0.093	1.5	Amenie	1.4	5.0 mg/L [TCLP]	
Prophen	0.056	1.4	Darium	1.2	21	mg/L [TCLP]
Proposur	0.056	1.4	- Boylium	0.82	1.22	mgT. [TCLF]
- Tronstiocarb	0.042	124	- Cadanissa	0.69	0.11	mg/L [TCLP]
Pyrene	0.067	8.2	- Chremium (Total)	2.77	0.60	mg/L [TCLF]
Pyridise	0.014	16	Cyanides (Total)	1.2		590
Safrole	0.081	22	- Cyanidra (Amcuabic)	0.86		30
5ilvex (2,4,5-TP)	0.72	7.9	Lead	0.69	0.75	mg1. [TCLP]
1.2.4.5-Tetrachlorobearene	0.055	14	Morowy	NA	0.20	mg/L [TCLP]
TCDDs (Tetrachiorodibenzo-p-dioxins)	0.000063	0.001	(Nonvastevaters from Retort)			
TCDF: (Tetrachloro/ibeacaferans)	0.000063	0.001		0.15	0.025	mg/L [TCLP]
- 1,1,1,2-Tetrachioroethane	0.057	6.0		3.56	11	mg/L [TCLP]
— 1,1,2,2-Tetrachlororthus	0.057	6.0	- Silver	0.43	9.14	mgT. [TCLP]
Tetrachieroethylene	0.056	6.0	- Thalling	1.4	0.30	mg/L [TCLP]
2,3,4,6-Tetrachlorophenol	0.030	7.4				
- Thiodicarb	0.019	1.4				
	0.013	8.76				
	0.055	2.4				
_ Thiophase-methyl _ Tolucae	0.056	1.4				

Fage 3 of 3

Rev.4 (E/05) Attachment IV (cont.) Page 2 of 3

CALL FOR HELP!

- General: Joseph-Mark Mirabella (609) 292-3962
- Manifest & Biennial: Bret Reburn (609) 292-3949
- Placarding & DOT Rules: Bob Gomez (609) 292-3837

- LDR: EPA Don Smith Field Branch, (303) 462-9111
- EPA National Enforcement Investigations Center

Enforcement Retreat



Waste Classification for Environmental Consultants

A Focus on Site Remediation Projects



Peter J. Postorino

I have soil borings data, now what's my classification?

- Limitations of Lab Testing:
 - TCLP vs. Totals
 - Composite vs. Discrete Sampling
 - Parameters Tested
 - Facility-Specific Requirements

How can waste from my other project, with twice the concentration, be non-hazardous?

- Concentration doesn't usually matter, at least not yet.
 - Source Rules
 - EPA Waste Codes F, P, U, K & D
 - The Infamous "Unknown" Source
 - LDR Treatment Standards Oh, now concentration matters?

It's Non-Hazardous, so the facility has to take it, right?

- "We don't gotta take nuttin' we don't wanna take." Disposal Facility
- Reasons facilities reject waste:
 - Debris, Liquids, Odor, Clay, Etc.
 - Contaminants Above Permit
 - Capacity
 - Their "Interpretation" of Lab Data
 - Mood, Politics, Fight With Spouse

You're my contractor, you tell me what codes to apply?

- It is always the generator's responsibility to classify his/her own waste. So how?
 - Generator Knowledge
 - Chemicals Used
 - MSDS
 - Process Descriptions
 - Site History
 - Laboratory Analysis

Documents, Documents, Documents

- What is a Profile?
- What a Manifest Really Says
- EPA Identification #s
- Off-Specification & Delays
- Who, How & When to Sign

Facility Selection Criteria

- Their Permit
- Your Conscience
- Generator Liability
- Existing Footprint
- Method of Disposition

Facility Selection Criteria (continued)

- Approved Facility Lists
- NJ County Waste Flow
- Time Frame
- Cost Considerations

- PCB's
 - What's the "Contact Rule"?
 - Oils, Water & Electrical Equipment
 - Remediation Waste
 - 50 vs. 500 PPM

- Solvents
 - Virgin vs. Spent
 - Active Ingredient
 - Land Disposal Restrictions (LDR)
 - 10 x Rule for Landfill Soil

- Mercury
 - Elemental Mercury
 - **O.4** PPM vs. 260 PPM
 - What is Retort?
 - Demo / C&D / Disclosure Issues

- Soil for Beneficial Reuse
 - Recycling?
 - Treatment Technologies
 - Approval & Pricing Pitfalls
 - Non-Petroleum Soil

Other Issues

- UHCs: Underlying Hazardous Constituents
- Off-Specification Waste
- Site History
- Transportation
- LSRP Liability



"WASTE 101" REFRESHER – INSIDER PERSPECTIVE

Presented to the

Water Environment Association

by

Lisa Hamilton

Senior Environmental Engineer, MPH, CHMM, CET

New Jersey Natural Gas Company

<u>Ihamilton@njng.com</u>

(732) 938-1244

This presentation is designed to provide practical and useful information. However, it is not designed to provide legal, engineering or other professional services. If legal, engineering or other expert assistance is required, the services of a competent professional should be sought.

The opinions presented in this presentation are my personal views, and not those of my employer, New Jersey Natural Gas Company.



PRESENTATION OVERVIEW

Steps to take to evaluate the most important waste compliance topics

Regulations & reliefs

- Code of Federal Regulations (40 & 49)
- OSHA 1910 (Parts 120, 134, 1200)
- "Insider" information
- Other related topics
- Things to come





STEP 1 - SHOULD YOU TOUCH IT?

GENERAL RULE IN THE INDUSTRY:

YOU TOUCH IT, YOU OWN IT.

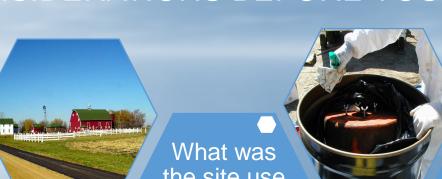






STEP 1 - SHOULD YOU TOUCH IT?

CONSIDERATIONS BEFORE YOU "TOUCH" THE SITE:

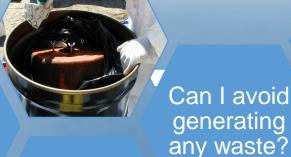


the site use before my activity?

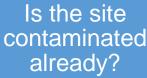
Do I own the property?

I OWN YOU.

0.0



Do I have a **ROW** for property?

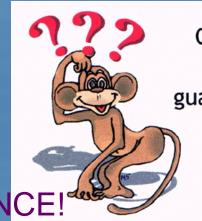




Does my activity cause contamination?



thinking

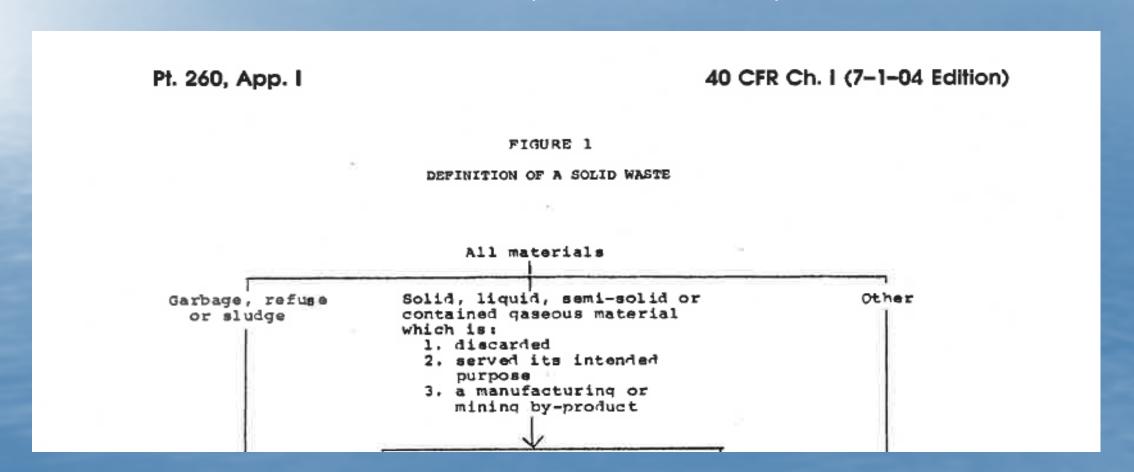


Questions are guaranteed in life; Answers aren't.

DO YOUR DUE DILLENCE!

STEP 2 – WHAT TYPE OF WASTE AM I GENERATING?

WHAT IS SOLID WASTE (40 CFR 261.2)?





STEP 2 – WHAT TYPE OF WASTE AM I GENERATING? – GENERAL CATEGORIES

THE WORLD OF WASTE

"Solid"
waste and
or
recyclable
waste

Non"solid"
waste and
or
recyclable
waste

Exclusion waste

OTHER WASTE: TSCA, Universal, State & ?

Waste

"Solid" hazardous waste Listed,
Characteristic,
Mixtures,
Derived From



KNOW YOUR





STEP 3 - HOW CAN I GET REGULATORY RELIEF? - 4 CATEGORIES





STEP 3 - HOW CAN I GET REGULATORY RELIEF? - RECYCLE OR REUSE



- Reuse Relief (40 CFR 261.2(e)) NOT SOLID WASTE WHEN RECYCLED
 - Used as raw material to make another product
 - Substitute for commercial product
 - Returned to original process no reclaim or land disposal first



STEP 3 - HOW CAN I GET REGULATORY RELIEF? - RECYCLE OR REUSE

- Reuse Relief (40 CFR 261.2 (c) & Table 1) –SOLID WASTE THAT IS RECYCLEABLE
 - Accumulated, stored or treated before recycling as stated below:
 - Used in a manner constituting disposal
 - Used to make products that are applied to the land
 - Exception: Commercial chemicals listed in 261.33 not solid wastes if applied to land & that is their "ordinary" use



- Burned for energy recovery or used to produce fuel
 - Exceptions: Commercial chemicals listed in 261.33 are not solid wastes if they are themselves fuels
- Reclaimed
- Accumulated speculatively



STEP 3 - HOW CAN I GET REGULATORY RELIEF? - DETAILS OF OPTIONS

	OTHER		SOLID AND NON- SOLID WASTE
Used Oil (Part 279.2)	SQH Universal Wastes	TSCA, Asbestos (not mixed)	MISCELLANEOUS MATERIALS
Excluded from hazardous waste rules - conditional	 Not counted towards biennial report 	Not counted towards biennial report	Recycle materials at off-site or your own facility
 Designated collection centers 	1 year storage	 Longer storage allowed 	 Send high-BTU content to fuels blending facilities
Self-transport allowed -conditional	Easy labeling	Less labeling	Reuse the material as raw material in your or others' process
Can be burned - conditional	No EPA ID #	Minimal documentation requirements	 Generate < 220 lbs. for full relief or < 2,200 lbs. for some relief
Can be stored in small quantity w/o documentation	No notifications		"Abate" wastes whenever possible to minimize quantity
Easy labeling	Minimal training		For C&D waste, stay under RCRA thresholds
	Minimal recordkeeping		Use satellite accumulation



STEP 4 - HOW DO I DETERMINE MY **GENERATOR STATUS?**

- TO CALCULATE YOUR GENERATOR STATUS:
 - Add up the amount of
 - Each waste type
 - Generated or accumulated at any time
 - For any single calendar month
- USE ONLY THE TOTAL RCRA HAZARDOUS WASTE AMOUNT TO DETERMINE YOUR GENERATOR STATUS.

EXAMPLE:

JUNE MONTHLY WASTE **GENERATION:**

2 lbs. of waste oil 4 lbs. of universal waste 10 lbs. of TSCA waste

4 lbs. of RCRA lead waste

3 lbs. of RCRA acute waste

TOTAL = 7 lbs. RCRA waste

16 lbs. of NON-RCRA waste



STEP 5 - IF I AM A SOLID WASTE GENERATOR, WHAT CLASS OF GENERATOR AM I?

CESQG

(Conditionally Exempt Small Quantity Generator)

SQG

(Small Quantity Generator)

LQG

(Large Quantity Generator)



STEP 5 - KNOW YOUR BASIC WASTE GENERATOR REQUIREMENTS:

ACTION	CESQG	SQG	LQG
Monthly generation limits	< 220 lbs. haz. waste & or < 2.2 lbs. acute haz. waste on site/ month	> 220 but < 2200 lbs. haz. waste & or < 2.2 lbs. acute haz. waste on site/ month	≥ 2200 lbs. haz. waste & or > 2.2 lbs. acute haz. waste on site/month
Accumulation quantity limits	< 2200 lbs. haz. waste & or < 2.2 lbs. acute haz. waste on site per month	≤13,200 lbs. haz. waste & or ≤ 2.2 lbs. acute haz. waste onsite/ month	No limit
Accumulation time limits	Unlimited	180 days unless receiving facility is > 200 miles, then 270 days (extensions granted)	90 days (extensions granted but not recommended)
EPA ID number required?	No - voluntary (See NJX program info.) http://www.state.nj.us/dep/dshw/hwr/njxqas.htm	Yes	Yes
Hazardous waste manifest required?	No - voluntary (See NJX program info. http://www.state.nj.us/dep/dshw/hwr/njxqas.htm	Yes – unless waste is reclaimed pursuant to 262.20 (e) (1)	Yes
Retention of manifest copy & related documentation incl. data	None – voluntary	3 years	3 years

Source for chart: http://www.state.nj.us/dep/enforcement/hw-reqmatrix.html - NOTE: Chart was modified for this presentation.



STEP 5 – KNOW YOUR BASIC WASTE GENERATOR REQUIREMENTS (CONTINUED):

ACTION	CESQG	SQG	LQG
Exception reporting (failure to receive signed TSDF copy of manifest)	None	None – but within 60 days generator must submit copy of the manifest with a note that signed TSDF copy is missing.	Generator must contact initial transporter or TSDF and NJDEP within 35 days of shipping date. Generator must submit exception report to NJDEP within 45 days of shipping.
Land Disposal Restrictions (LDR) documentation	None	Required for certain haz. wastes. Keep your copy for at least 3 years and possibly 5 years.	Required for certain haz. wastes. Keep your copy for at least 3 years and possibly 5 years.
Biennial Report	None	None	Submitted on each even year to report annual generation for previous odd year.
Inspections	None	Weekly for haz. storage containers & daily for haz. waste storage tanks	Weekly for haz. storage containers Daily/bimonthly/yearly for haz. waste storage tanks
Haz. waste training, Preparedness/ Prevention & Contingency Plan	None	Basic familiarization of ER procedures for employees, hospital, OEM, alarm and spill equipment, no drills, ER contractor – DOCUMENT!	Full training, comprehensive ER plan which details procedures for employees, hospital, OEM, alarm and spill equipment, no drills, fire inspections, ER contractor – DOCUMENT!



STEP 6 – IF YOU ARE A SQG OR LQG THEN YOU NEED AN EPA ID NUMBER:

http://www.epa.gov/osw/inforesources/data/form8700/8700-12.pdf

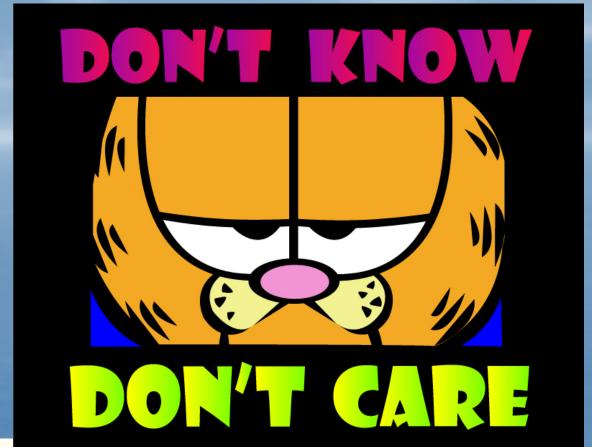
- WHEN DO YOU NEED ONE?
 - SQG & LQG
- HOW DO YOU GET ONE?
 - Contact Agent for EPA
 Region II NJDEP
 Hazardous Waste
 Compliance &
 Enforcement (609)
 292-2913.

OMB	OMB# 2050-0024; Expires 01/31/2017						
FORI	PLETED M TO: Appropriate or Regional	United States Environmental Protection Agency RCRA SUBTITLE C SITE IDENTIFICATION FORM					
1	Reason for	Reason for Submittal:					
S	Submittal To provide an Initial Notification (first time submitting site identification information / to obtain an EPA ID r for this location)						
N	MARK ALL	☐ To provide a Subsequent Notification (to update site identification information for this location)					
ВО	X(ES) THAT APPLY	☐ As a component of a First RCRA Hazardous Waste Part A Permit Application					
	AFFLI	☐ As a component of a Revised RCRA Hazardous Waste Part A Permit Application (Amendment #)					
		☐ As a component of the Hazardous Waste Report (If marked, see sub-bullet below)					
		 Site was a TSD facility and/or generator of >1,000 kg of hazardous waste, >1 kg of acute hazardous waste, or >100 kg of acute hazardous waste spill cleanup in one or more months of the report year (or State equivalent LQG regulations) 					
	ite EPA ID lumber	EPA ID Number					
3. S	ite Name	Name:					
4. S							
Information		City, Town, or Village: County:					
		State: Country: Zip Code:					
5. S	ite Land Type	☐ Private ☐ County ☐ District ☐ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other					
e N	AICS Code(s)						



STEP 6 - EPA ID NUMBERS- DEACTIVATE:

- HOW DO YOU DEACTIVATE ONE?
- Write a letter to NJDEP & FAX
 - EPA ID number
 - Site address
 - Request deactivation and reason
 - Contact information for request
 - FAX TO: (609) 292-3970
 (Yes, they want you to fax for their recordkeeping.)





FINITO!



STEP 7 - BIENNIAL REPORTING:

The 5 W's and the H:

- Who? LQGs who generate RCRA waste & TSDs who handle RCRA hazardous wastes on-site
- What? Electronic regulatory report due to EPA
- When? March 1, every even # year. Next one due March 1, 2016 for generator activities in calendar year 2015
 Waste ID records must be kept for 3 years (generators) or 30 years after facility closure (TSDFs)
- Where? Electronic report obtained from: http://www.epa.gov/epawaste/inforesources/data/biennialreport/
- Why? RCRA mandates that EPA establish standards for recordkeeping and reporting of hazardous waste
- How? Electronic reporting





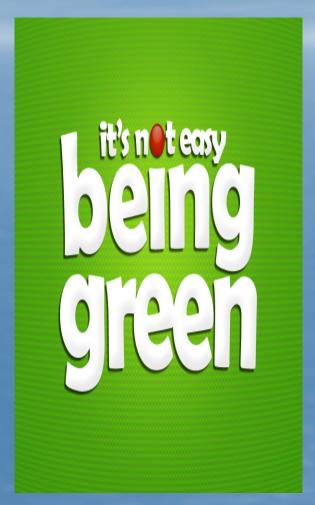
This is a bummer dude!



STEP 8 - HOW CAN I GET REGULATORY RELIEF FROM BIENNIAL REPORTING?



- Don't generate RCRA waste on any odd numbered year.
 - Instead recycle, generate universal waste, state ID waste, TSCA waste
- Keep your generator status at CESQG or SQG.





HELPFUL TOOLS TO UNDERSTAND COMPLIANCE:

NJDEP

http://www.state.nj.us/dep/enforcement/CAVPacket%20Master
 .pdf

EPA

 http://www2.epa.gov/compliance/compliance-monitoringprograms

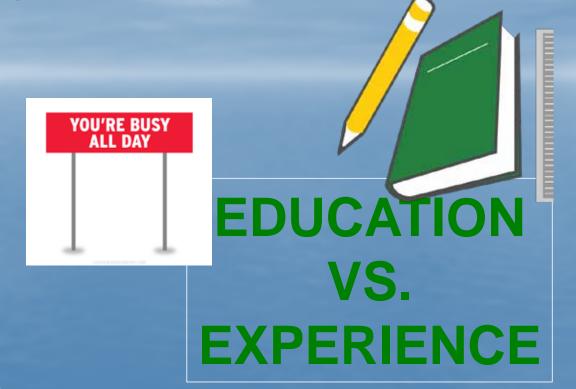


THE CLASSROOM IS NO SUBSTITUTE FOR EXPERIENCE (Things they don't tell you in class.):

- Reality vs. regulations:
 - Satellite accumulation & point of generation
- Storage dilemmas
 - Inside or outside
 - TSCA Requirements 40 CFR
 761.65 (a) (4) (b) (1)
- Marking (CFR 40, 172.202) vs. Labeling (172.400)
- DOT Registration –

http://phmsa.dot.gov/hazmat/registration

- "Offeror" is almost everyone! (See CFR 49 107.601)
- EPA TSCA Inspections happening now
- Materials of Trade exemption (49 CFR 171.8 & 173.6)
- Letters of Determination
- Shipping papers vs. waste manifests (49 CFR 172. 200 vs. 172.205)





WHAT PROPOSED REGULATIONS MAY AFFECT GENERATORS:

- EPISODIC GENERATORS
- EPA ELECTRONIC (e manifests)
 MANIFESTS (federal)



http://www.epa.gov/osw/hazard/transportation/manifest/pdf/emanifst_webnr_nov2014.pdf



A FEW MORE THINGS.....

Release reporting -

Shipping paper records -

Waste classification -

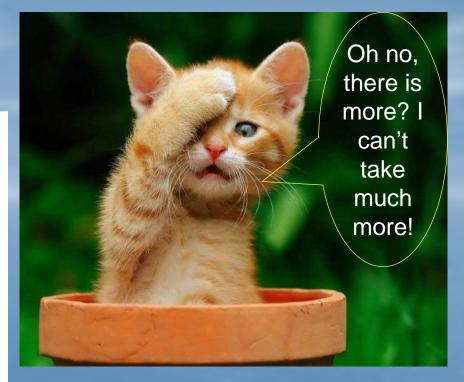
Training, medical surveillance, fit testing, PPE -

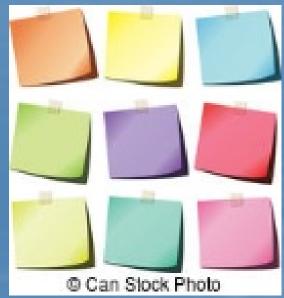
Spills, UST overflows, air releases, fires, threats to human health (local authorities, POTW, DOT (while "in commerce"), DEP, EPA, NRC (Coast Guard)

Retain 3-5 years from date of shipment, save LDRs, unmanifested waste report, manifest discrepancies

Generator knowledge can be used *or* sampling and analysis

OSHA, EPA Hazardous waste, HASP, medical monitoring program, provide levels of PPE





WASTE SHIPMENT DISCREPANCY DISCOVERY



35 DAYS TO INVESTIGATE



10 MORE DAYS TO REPORT TO EPA (45 total days)



YOUR JOB IS HARD!

- A profession in the environmental field is one of the few professions in which one is criminally and civilly liable.
- We have to know so many regulations and get them correct all of the time.
- We have a lot of required training and recertification's every or interval years.
- The industry is very static which makes it challenging.





THANK YOU.

Mater be plenty

Nater be plean. Water is life.



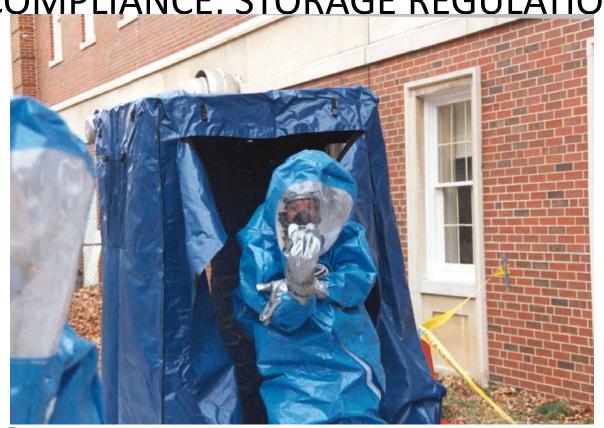
You can live
Without food
for a few days,
but you can't
live without
clean water.

Use of water leads to clean living.

Unless otherwise noted, the source of some clip art & images: Microsoft Bing

NJWEA WASTE MANAGEMENT

COMPLIANCE. STORAGE REGULATION

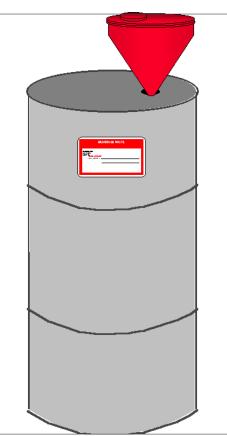


ECM

JUNE 2, 2015

COMPLIANCE, STORAGE REGULATIO

- 1. Time Considerations
- 2. Stockpiling (Hazardous vs. Non-Hazardous)
- 3. Containerization
- 4. Right-To-Know



HAZ. WASTE GENERATOR CLASSIFICATION/LIMITS

- Conditionally Exempt Small Quantity Generator (CESQG): 220 pounds (100 kilograms) or less of hazardous waste per month
- Small Quantity Generator (SQG): More than 220 pounds (100 kilograms) but less than 2200 pounds (1000 kilograms) of hazardous waste per month, you are considered an SQG for that year.
- Large Quantity Generator (LQG): 2200 pounds (1000 kilograms) or more of hazardous waste in per month of the calendar year.

HAZARDOUS WASTE STORAGE AND ACCUMULATION AREAS

Hazardous waste storage areas are subdivided as the:

- Primary Storage Area (Also called "90-day" or "180-day" areas, or "central accumulation") The primary facility hazardous waste storage area at the facility. Should be labelled.
- Satellite Accumulation Areas Generators may accumulate up to 55 gallons of hazardous waste or one quart of acutely hazardous waste, for an unlimited amount of time, in areas that are away from the primary storage area. These areas are designated as satellite storage areas.

SATELLITE ACCUMULATION AREAS

- At or near any point of generation, and under the control of the operator.
- Date the container when full, move to the 90-day or 180-day area within three days.
- Included in monthly generation total.



TIME CONSIDERATIONS - ACCUMULATION TIME LIMITS

 Hazardous waste storage containers in the primary storage area must be marked as to when the storage period began (accumulation start date) and must be labeled as hazardous waste. A clear description of the waste must also be included on the labeling.

TIME CONSIDERATIONS - ACCUMULATION TIME LIMITS

- No time limits for **CESQGs**.
- An SQG can accumulate hazardous waste in the primary area for up to 180 days (or 270 days if the disposal facility is located farther than 200 miles from the generation site).
- An LQG can accumulate hazardous waste in the primary area for up to 90 days (180 days for F006 waste).

STOCKPILING- ACCUMULATION LIMITS

- ≤ 1,000kg, ≤ 1 kg acute for CESQGs (261.5(f)(2) and (g)(2)).
- A SQG can accumulate ≤ 6,000kg hazardous waste (262.34(d)(1)).
- No limit for a LQG.

- Hazardous waste storage areas must <u>have a</u> <u>containment system</u> (e.g., spill pallets or safety cabinets).
- There must be a base underlying the container(s) that is free of gaps or cracks, with an impervious base that will contain leaks and spills until the material is removed.

- The container used must be compatible with the hazardous waste stored.
- Incompatible wastes cannot be stored in the same container. A dike, berm, wall, or other method must separate storage containers that store incompatible wastes.
- All containers used to hold wastes must be in good condition (e.g., non-rusted, no leaks or structural defects).

 Containers be inspected at least weekly for leaks and deterioration caused by corrosion or other factors. (265.174)



1. Containers used to store hazardous waste must be closed at all times, except during transfer.



 Containers holding ignitable or reactive wastes must be stored at least 50 feet from the property boundary.

 Enough aisle space should be left between the containers to allow for inspection and removal of containers that are leaking or need to be shipped.

What is Universal Waste?

- Universal Waste is a specific <u>hazardous</u> waste stream that has been designated by EPA or a state as universal waste
- Provides alternative management options for these specific hazardous waste streams
- ➤ Only those waste streams identified in the Universal Waste Rule (UWR) may be managed as universal waste

Management of Universal Waste

- Universal Wastes <u>do not</u> have to be stored in a hazardous waste 90-day accumulation area
- ➤ Universal Wastes <u>do not</u> count toward hazardous waste generation amounts
- Universal Wastes <u>do not</u> have to be transported by a hazardous waste transporter using a hazardous waste manifest

Federal and State Listed UW

Federal UW:

- Batteries
- Mercury-containing Devices (includes Thermostats)
- Pesticides
- Hazardous Waste Lamps (fluorescent bulbs)

Additional NJ State UW:

- Consumer Electronics
- Oil-based finishes

Universal Waste Handlers (cont'd)

Two categories of Universal Waste Handlers:

- **Small Quantity Handlers** Accumulate <u>less than</u> 5,000 kilograms (11,000 lbs..) of universal waste (combined) at any given time
- Large Quantity Handlers Accumulate more than 5,000 kilograms (11,000 lbs.) of universal waste (combined) at any given time

Universal Waste Handlers (cont'd)

Requirements for All Handlers

- > All universal waste must be labeled
- ➤ Cannot be accumulated for longer than one year
 - ➤ Must maintain records to prove material has been accumulated for less than one year
- ➤UW must be sent to another handler or a destination facility

OSHA RIGHT TO KNOW LABELING REQUIREMENTS



CURRENT LABELING REQUIREMENTS

 Hazardous material containers must be marked as to the contents.

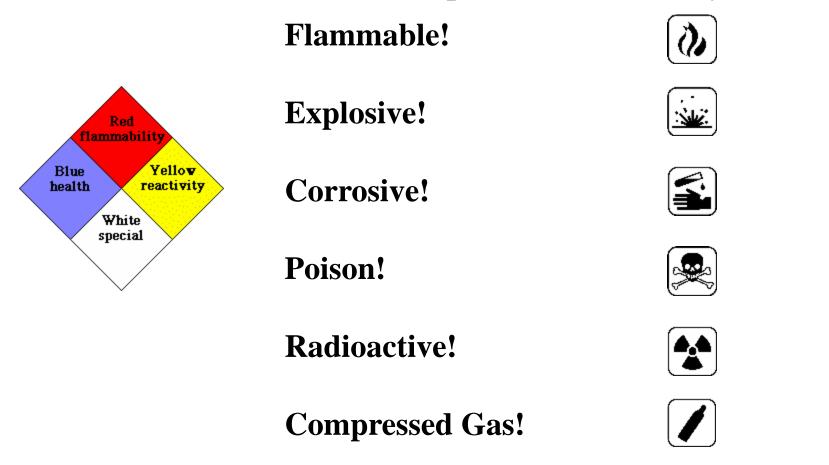
 A clear description of the hazards of the contents must also be included on the labeling.



CHEMICAL HAZARDS (Continued)

• Labels may be NFPA, HMIS, or DOT.

Special Precaution Symbols



NFPA Labeling Systems

- Blue = Health
- Red = Flammability
- Yellow = Reactivity

GLOBAL HARMONIZATION STANDARD (GHS)

- OSHA adopted THE Globally Harmonized System (GHS) amendments to its Hazard Communication (HazCom) standard on May 25, 2012;
- Phase-in period of 4 years; by June 16, 2016;
- Training required by December 1, 2013

GHS MAJOR CHANGES

- Hazard classification: The definitions of hazard have been changed to provide specific criteria for classification of health and physical hazards,
- Labels: That includes a harmonized signal word, pictogram, and hazard statement for each hazard class and category.
- Safety Data Sheets: Will now have a specified 16section format.

 Product identifier: how the hazardous chemical is identified. This can be (but is not limited to) the chemical name, code number or batch number. The manufacturer, importer or distributor can decide the appropriate product identifier.

• **Signal word:** used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. There are only two signal words, "Danger" or "Warning".

 Hazard statement(s): describe the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.
 For example: "Causes damage to kidneys through prolonged or repeated exposure when absorbed through the skin."

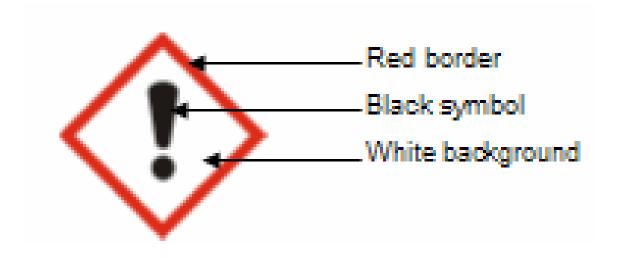
 Precautionary statement(s): For example: "Wear gloves when using this chemical."



Tool Sales 01502 717788

 Pictogram: OSHA's required pictograms must be in the shape of a square set at a point and include a black hazard symbol on a white background with a red frame sufficiently wide enough to be clearly visible.

Nine pictograms, but only eight enforceable



- Explosive (Unstable, Divisions
- 1.1, 1.2, 1.3 and 1.4), Self
- Reactive (Type A and B),
- Organic Peroxide (Type A and B)
- Corrosive (Skin Corrosion)
- Categories 1A, 1B and 1C, Eye
- Corrosion Category 1),
- Corrosive to metals.





Acute Aquatic Toxicity (Category 1),

Chronic Aquatic Toxicity (Categories 1 and 2)



Multiple pictograms may be on a container

 Signal word and hazard statement used to differentiate hazards (example corrosive hazard)

NJDEP COMMUNITY RIGHT TO KNOW REQUIREMENTS

Employer as defined by the New Jersey Worker and Community Right to Know Act Based on the North American Industry Classification System (NAICS) Codes

Access the NAICS Codes at: http://www.nj.gov/dep/opppc/figdoc.htm

NJDEP COMMUNITY RIGHT TO KNOW REQUIREMENTS

New Jersey

Hazardous substances on the NJ CRTK Environmental Hazardous Substance (EHS) List Typically, 500 pound threshold

http://www.nj.gov/dep/opppc/figdoc.htm

NJDEP COMMUNITY RIGHT TO KNOW REQUIREMENTS

Due March 1 each year

 Filed electronically with the NJDEP and paper copies to local agencies

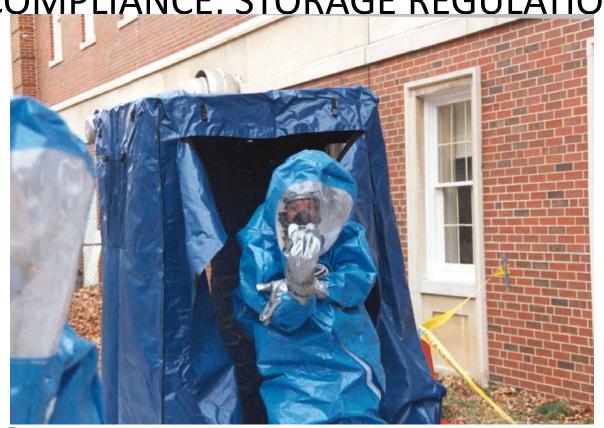
ANY QUESTIONS?



Scott Hubbard, CHMM ECM Inc., Hillsborough, New Jersey 908-874-0990 SEH-ECM@att.net

NJWEA WASTE MANAGEMENT

COMPLIANCE. STORAGE REGULATION



ECM

JUNE 2, 2015