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# **Resource Conservation and Recovery Act (RCRA)**



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Protection Agency (EPA)**

**Region 1 New England**

# **MOST COMMON RCRA VIOLATIONS IN HEALTHCARE**

Hazardous waste determinations

Improper disposal

Open containers

Unmarked/unlabeled containers

Satellite accumulation

Hazardous waste training

Contingency plan

Universal Waste

Note: Don't forget contractors and consultants



The background of the slide is a photograph of a sunset or sunrise over a vast body of water. The sky is a deep blue with wispy white clouds. A bright, colorful rainbow is visible on the left side of the image, arching over the horizon. The water is a dark blue with gentle ripples.

# RCRA BASICS

# RCRA Basics I

## HAZARDOUS WASTE DETERMINATIONS

- ☐ Generator's responsibility
  - annually or when process changes
- ☐ Process knowledge
- ☐ Analysis
- ☐ MSDS
- ☐ Expiration dates



# RCRA Basics I

## HAZARDOUS WASTE DETERMINATIONS

- ☐ Process knowledge
- ☐ Analysis
- ☐ MSDS
- ☐ Expiration dates























I am,  
for disposal  
4/10/02

42302



# **RCRA Basics II**

## **Waste Activity Notification**

# RCRA Basics III

## GENERATOR CLASSIFICATION - VOLUME

- ❑ Large Quantity

> 1000 kg

- ❑ Small Quantity

100kg – 1000kg, < 1kg acute and no more than 1000kg at any time

- ❑ Conditionally Exempt

< 100 kg, < 1kg acute and no more than 1000 kg at any time



# RCRA Basics III

## GENERATOR CLASSIFICATION - TIME

- ☐ Large Quantity - 90 Days
- ☐ Small Quantity – 180 Days
- ☐ Conditionally Exempt - no time limit



# **RCRCA Basics IV**

## **Container Management**

# **RCRA Basics V**

## **Satellite vs. Non-Satellite Storage**



# RCRA Basics VI

## SATELLITE STORAGE

- ☐ At or near point of generation
- ☐ Under the control of the operator of the process
- ☐ Less than 55-gallons of wastes - total



# RCRA Basics VII

## SATELLITE STORAGE

- ☐ Labeled "Hazardous Waste" and other words that describe contents
- ☐ Keep container closed

# RCRA Basics VIII

## CONTAINER MANAGEMENT

- ☐ Labeling (“hazardous waste” and other words that describe contents)
- ☐ Dating
- ☐ Compatibility
- ☐ Aisle space

# HAZARDOUS WASTE

## FEDERAL LAW PROHIBITS IMPROPER DISPOSAL

IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY  
AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY.

ACCUMULATION  
START DATE \_\_\_\_\_

E.P.A.  
WASTE NO. \_\_\_\_\_

D.O.T. PROPER  
SHIPPING NAME \_\_\_\_\_

U.N. OR  
N.A. NO. \_\_\_\_\_

GENERATOR  
NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_

E.P.A.  
I.D. NO. \_\_\_\_\_

MANIFEST  
DOCUMENT NO. \_\_\_\_\_

## HAZARDOUS WASTE HANDLE WITH CARE











CORROSIVE

NO SMOKING

3105

WARNING  
18

4535

WARNING  
4523





Organic waste

1000  
gals  
residue

Fisher Scientific

AMMONIUM  
HYDROXIDE

4/23/02



DO NOT INCINERATE-REUSABLE DRUM-DO NOT DESTROY-NSN FOR EMPTY DRUM

**WARNING**

HAZARDOUS WASTE

271

PAINT  
CANS ONLY

3M

3M



4 991





# RCRA Basics IX

## CONTAINER MANAGEMENT

- ☐ Condition of containers
- ☐ closed
- ☐ Ignitable waste special requirements
- ☐ Air emission standards



DEUTCHMANN  
CARBON  
ANALYZER



8 14 00





4 10 91















2033  
AMINE



# **RCRA Basics XII**

## **Manifesting Wastes**

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No.		2. Page 1 of		3. Information in the shaded areas is not required by Federal law					
3. Generator's Name and Mailing Address		4. Generator's Phone ( )		5. State Manifest Document Number		6. State Generator's ID					
7. Transporter 1 Company Name		8. US EPA ID Number		9. State Transporter's ID		10. Transporter's Phone					
7. Transporter 2 Company Name		8. US EPA ID Number		9. State Transporter's ID		10. Transporter's Phone					
9. Designated Facility Name and Site Address		10. US EPA ID Number		11. State Facility's ID		12. Facility's Phone					
<b>11. US DOT Description (Including Proper Shipping Name, Hazard Code, and ID Number)</b> a. b. c. d.		<b>12. Containers</b> Mo. Type		<b>13. Total Quantity</b>		<b>14. Unit Weight</b>		<b>15. Waste No.</b>			
<b>16. Generator's Certification:</b> I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in safe condition for transport by highway according to applicable Departmental and National Government regulations. If I am a large quantity generator, I hereby state I have a program in place to estimate the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and meet I can afford.		<b>17. Special Handling Instructions and Additional Information</b>		<b>18. Discrepancy Indication Space</b>							
<b>17. Transporter 1 Acknowledgement of Receipt of Materials</b> Printed/Typed Name		Signature		Month Day Year		<b>20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.</b> Printed/Typed Name		Signature		Month Day Year	
<b>18. Transporter 2 Acknowledgement of Receipt of Materials</b> Printed/Typed Name		Signature		Month Day Year							
<b>19. Discrepancy Indication Space</b>		Signature		Month Day Year							



# **RCRA Basics XIII**

## **CONTAINER STORAGE AREA INSPECTIONS**

The owner or operator must inspect areas where containers are stored, at least weekly, looking for leaks and for deterioration caused by corrosion or other factors.

# RCRA Basics XV

## HAZARDOUS WASTE TRAINING

- ☐ Initial training
- ☐ Annual refresher training
- ☐ Documentation
- ☐ Relevant to job duties performed
- ☐ Training program led by qualified staff



# RCRA Basics XVI

## HAZARDOUS WASTE TRAINING

- ☐ Job titles
- ☐ Job descriptions
- ☐ RCRA vs OSHA

# RCRA Basics XVII

## CONTINGENCY PLAN

- ☐ Plan must be designed to minimize hazards to human health and the environment from fires, explosions, or release of hazardous waste or hazardous waste constituents.
- ☐ Plan must be carried out immediately.



# RCRA Basics XVIII

## CONTINGENCY PLAN

- ☐ Describe detailed response actions
- ☐ Arrangements with locals
- ☐ Emergency coordinators
- ☐ Emergency equipment
- ☐ Evacuation plans

# RCRA Basics XIX

## PREPAREDNESS AND PREVENTION

- ☐ Alarm system
- ☐ Communication device
- ☐ Extinguishers
- ☐ Adequate water
- ☐ Aisle space
- ☐ Arrangements with locals



# **RCRA Basics XX**

## **PREPAREDNESS AND PREVENTION**

**Facilities must be maintained and operated to minimize the possibility of a fire, explosion or release of hazardous waste or hazardous constituents.**





**WARNING**

**HAZARDOUS WASTE**



**WARNING**

**HAZARDOUS WASTE**



4608

4608

4 10 91





Please open door  
When Dumping Waste,  
the smell has become  
Overpowering Thanks.

IF YOU START A NEW  
WASTE DRUM NOT ON  
THE RAISED PLATFORM,  
YOU MUST WRITE THE  
ACCUM. START DATE ON  
THE WASTE LABEL.

Thank you for your cooperation

8 14 00















HANDS OFF WITH CARE

6 14 00







$\text{PCl}_3$







# RCRA Basics XXI

## BIENNIAL REPORT

A large quantity generator is required to submit a biennial report by March 1<sup>st</sup> of each even numbered year. This report summarizes waste activities during the previous year.



# RCRA Basics XXII

## UNIVERSAL WASTE

Universal wastes are widely generated and widely recycled hazardous wastes. Management standards for these wastes are reduced to facilitate their recycling.

Universal Waste need not be counted towards your monthly generation rate

# RCRA Basics XXIII

## UNIVERSAL WASTE

- ☐ Batteries
- ☐ Pesticides
- ☐ Mercury containing thermostats
- ☐ Hazardous waste lamps
- ☐ Used electronics



# RCRA Basics XXIV

## UNIVERSAL WASTE

- ☐ Containerization
- ☐ Label describing content
- ☐ Dating
- ☐ Training
- ☐ Record keeping









# WHAT TO EXPECT DURING AN EPA RCRA INSPECTION

## AUTHORITY

42 USC Section 6927 (SWDA 3007)

Gives EPA the authority to:

Enter at reasonable times any place where hazardous wastes are or have been generated, stored, treated, disposed of or transported from

Inspect and obtain samples

Review and copy records related to hazardous waste



# **WHAT TO EXPECT DURING AN EPA RCRA INSPECTION**

**FEDERAL REGULATIONS  
VS.  
STATE REGULATIONS**

# WHAT TO EXPECT DURING AN EPA RCRA INSPECTION

## WHAT WE LOOK AT

Container management

Emergency planning

Training

Other records



# WHAT TO EXPECT DURING AN EPA RCRA INSPECTION

## WHEN WE ARRIVE

It will be a surprise

Plan on spending a day to several days with us

There will be at least two of us

Multi-media or not

An opening meeting – you describe your facility

# **WHAT TO EXPECT DURING AN EPA RCRA INSPECTION**

## **FACILITY TOUR**

**Photos and lots of notes**

**Will go to any and all areas of the site**

**Will look at chemical and waste storage**



# **WHAT TO EXPECT DURING AN EPA RCRA INSPECTION**

## **RECORD REVIEW**

**Manifests**

**Waste determination documentation**

**Training records**

**Contingency plan**

**Biennial report**

# WHAT TO EXPECT DURING AN EPA RCRA INSPECTION

## OUTBRIEF

Please have all relevant people at this meeting

Detailed review of areas of concern

Summary of time frames and enforcement follow-up

Ask questions and offer information on compliance determination.



# WHAT TO EXPECT DURING AN EPA RCRA INSPECTION

## WHEN WE LEAVE

Report and review findings with management

May ask for more information (informally or information request letter)

Prepare enforcement follow-up

# WHAT TO EXPECT DURING AN EPA RCRA INSPECTION

## TYPES OF ENFORCEMENT

Notice of Violation

Administrative Order with penalty (up to \$ 32,500 per day per violation)

Referral to the Department of Justice

7003 Order for imminent/substantial endangerment

Referral to State/other EPA program/other agency

Criminal referral

Note: EPA does not issue "compliance letters"



# **WHEN IS A WASTE A WASTE?**

**WHEN YOU GENERATE IT OR  
DETERMINE IT TO BE NO LONGER  
USABLE**

# WHEN IS A WASTE A WASTE?

A solid waste is any discarded material that is not otherwise excluded. A material is discarded if it is abandoned by being disposed of, burned or incinerated; accumulated, stored or treated before or in lieu of being abandoned by being disposed of, burned or incinerated; or recycled.

**A person who generates a solid waste must determine if that waste is a hazardous waste.**



# WHEN IS A WASTE A WASTE?

40 CFR Section 261.2(f)

*Documentation of claims that materials are not solid waste or are conditionally exempt from regulation.* Respondents in actions to enforce regulations implementing subtitle C of RCRA who raise a claim that a certain materials is not a solid waste, or is conditionally exempt from regulation must demonstrate that there is a known market or disposition for the material and that they meet the terms of the exclusion.

# WHEN IS A WASTE A WASTE?

A solid waste is a HAZARDOUS waste if it:

Is not excluded or deferred; and

Is LISTED; or

Exhibits a CHARACTERISTIC(S); or

Is mixed with a hazardous waste; or

Is derived from a hazardous waste; or

Is regulated by a State.



# WHEN IS A WASTE A WASTE?

## LISTED HAZARDOUS WASTES

F Wastes

F001-F039

Non-specific sources

(solvents, plating  
wastes, refineries)

F001-F005 Solvent > 10% before use

# WHEN IS A WASTE A WASTE?

## LISTED WASTES (CONT.)

P Wastes  
P001-P123

Acutely hazardous  
(e.g., nitric oxide,  
dichloromethyl ether)

U Wastes  
U001-U359

Toxic wastes  
(e.g., acetone,  
formaldehyde)

Discarded commercial chemical product, residues and spills  
AND sole active ingredients



# WHEN IS A WASTE A WASTE?

## CHARACTERISTIC HAZARDOUS WASTES

D001	Ignitable – liquids with a flash point < 140 degrees F
D002	Corrosive – pH less than or equal to 2 or greater than or equal to 12.5 or corrodes steel .25 inches/year
D003	Reactive – unstable, explosive, water reactive
D004-D043	Toxic - TCLP

# WHEN IS A WASTE A WASTE?

## HAZARDOUS WASTE MIXTURES

Hazardous waste mixtures that are still hazardous waste

Mix anything with a listed waste and it's all listed

Mix something with a characteristic waste and it retains characteristic

Spill residues, soil, water, debris mixed with listed waste



# WHEN IS A WASTE A WASTE?

EMPTY CONTAINERS DO NOT HAVE TO BE  
MANAGED AS HAZARDOUS WASTE

Compressed Gas – no pressure

P-listed Waste – triple rinse and manage rinsate as  
HW

All else - all waste removed AND  $< 1''$  of residue OR  
 $< 3\%$  of the containers capacity (if container less  
than 110 gallons)

# WHEN IS A WASTE A WASTE?

## DON'T FORGET

Expired chemicals and unused chemicals/pharmaceuticals (both active use and inactive use)

Facilities wastes

Dental wastes

Photographic wastes



# **REGION II HOSPITAL INITIATIVE – INSPECTIONS AND ENFORCEMENT**

**Region II includes New Jersey, New York, Puerto Rico, and U.S. Virgin Islands**

**Region II conducted at least 12 inspections and initiated four penalty actions**

# **REGION II HOSPITAL INITIATIVE – INSPECTIONS AND ENFORCEMENT**

**North Shore University Hospital**

**Total Penalty - \$ 57,749**

**Waste determination – chemo waste for  
incineration, lamps in trash**

**Failure to minimize the threat of release –  
abandoned chemicals not segregated**



# **REGION II HOSPITAL INITIATIVE – INSPECTIONS AND ENFORCEMENT**

**Atlantic Health Systems/Mountainside  
Hospital**

**Total Penalty - \$ 64,349**

**Waste determination – chemo waste,  
scrap amalgam, lamps, lab wastes,  
dental clinic wastes in trash or down  
sink or disposed of as medical waste**

# **REGION II HOSPITAL INITIATIVE – INSPECTIONS AND ENFORCEMENT**

**Memorial Sloan Kittering**

**Total Penalty - \$ 214,423**

**Storage of hazardous waste without a  
permit**

**Waste determination**



# REGION II HOSPITAL INITIATIVE – INSPECTIONS AND ENFORCEMENT

Nassau Health Care Corporation/Nassau University Hospital

Total Penalty - \$ 279,900

Storage of hazardous waste without a permit – old, unused chemicals stored for greater than one year

Failure to minimize the threat of release – abandoned chemicals not segregated, wastes stored in alphabetical order

# RCRA REGULATED CHEMOTHERAPY DRUGS

Some drugs that are LISTED hazardous wastes:

Chlorambucil (U035)

Cyclophosphamide (U058)

Daunamycin (U059)

Melphalin (U150)

Mitomycin C (U010)

Streptozocin (U206)

Uracil Mustard (U237)

Arsenic Trioxide (P012!!!)



# **RCRA REGULATED CHEMOTHERAPY DRUGS**

## **IV BAGS AND ASSOCIATED EQUIPMENT**

**Empty bags and equipment that are  
not acutely hazardous may be  
disposed as empty containers**

**Bags and equipment with material  
remaining must be managed as  
hazardous waste**

The background of the slide is a photograph of a sunset or sunrise over a vast body of water. The sky is a deep blue with wispy white clouds. A bright, multi-colored rainbow is visible on the left side of the image, extending from the horizon towards the top left. The water in the foreground is dark blue with gentle ripples.

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