

## RCRA in the Ivory Tower Challenging sages and tyros alike

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## Challenge to Manage

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Who does what?

- Students
- Laboratory personnel
- Instructors
- Maintenance staff
- Health and safety officers
- University officials
- The institution as a "person"




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## Waste ID

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- Industry-based descriptions
- Laboratory activity under the control of individual researcher or instructor?




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## Waste ID

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Expired unused chemicals?

- Speculative accumulation?  
40 CFR 261.2(c)(4)
- Solid waste?


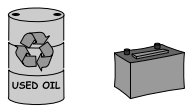


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## Generator Status

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- Depends on monthly generation rate  
– 40 CFR 261.5 and 262.34
- Counting reliefs  
– 40 CFR 261.5(c) and (d)
  - Used oil
  - Universal waste
  - Some treated waste
  - Some recycled waste





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## Generator Status

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- Complications:
  - Wastes in many different labs
  - Sporadic laboratory work
  - Periodic lab clean up



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## "Satellite" Accumulation

- Waste generated and accumulated in labs
- Managed under 40 CFR 262.34(c)
- Quantity limits:
  - 55 gallons total
  - 1 quart acute



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## "Satellite" Accumulation

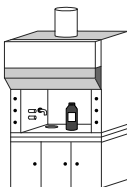
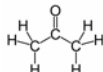
- Mark
  - "Hazardous Waste" or
  - Other identifying description
- 3 day time limit once quantity limit is exceeded
  - Unpredictable generation rates
  - Difficult to track quantities
- What if the process has stopped?



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## "Satellite" Accumulation

- Closed except when adding or removing waste [40 CFR 265.173(a)]
- Open container to allow drying in hoods?
  - If the content is a hazardous waste?
    - For ex. acetone?
  - If the container is RCRA empty?
    - 40 CFR 261.7(b)
  - Marking/labeling requirements?



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## "Satellite" Accumulation

- Transferring wastes between labs?



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## Can I Treat without a Permit?

- Accumulation containers/tanks [51 FR 10168, 3/24/86]
- Totally enclosed [40 CFR 270.1(c)(2)(iv)]
- Adding Absorbent [40 CFR 270.1(c)(2)(vii)]
- Emergency Response [40 CFR 270.1(c)(3)(i)]
- ENU [40 CFR 270.1(c)(2)(v)]
- WWTU [40 CFR 270.1(c)(2)(v)]
- Recycle [40 CFR 261.6(c)(1)]

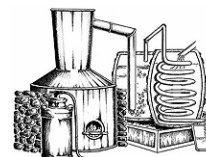
Yes!



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## Common Treatments

- Recovering spent materials?
- Reclaiming a spent material 40 CFR 261.2(c)(3)
- Manage as hazardous waste until reclaimed
- No permit required 40 CFR 261.6(c)(1)
- Still bottoms?



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## Common Treatments

Recovering spent materials?

Reliefs?

- 40 CFR 261.5(c)(3) Counting relief for recycling
- 40 CFR 261.4(a)(8) Closed loop
- 40 CFR 261.6(a)(3)(i) Ethyl alcohol
- 40 CFR 261.6(a)(3)(ii) and 261.4(a)(13) Scrap metal
- 40 CFR 261.4(a)(22) CRTs

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## Common Treatments

Reclaiming precious metals?

- Relief under 40 CFR 261.6(a)(2)(iii) and 266 Sub F
- Manifest if shipping off site
- EPA ID number required
- Avoid speculative accumulation
- Not subject to 40 CFR 262.34



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## Common Treatments

Neutralizing corrosive wastes?

- ENU [40 CFR 270.1(c)(2)(v)] for corrosive only



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## Common Treatments

Neutralizing corrosive wastes?

- Accumulation container [51 FR 10168, 3/24/86]



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## Common Treatments

Neutralizing corrosive wastes?

- WWTU [40 CFR 270.1(c)(2)(v)]



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## Common Treatments

Neutralizing corrosive wastes?

- Does it count towards status?  
261.5(c)(2)
- Management rules in 40 CFR 265?  
265.1(c)



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## Biohazards / Hazardous Waste

OSHA: 29 CFR 1910.1030 for blood-borne pathogens

- Management of the regulated waste on site
- No specific requirements for disposal
- Check your state and local regulations for disposal

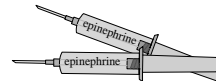


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## Biohazards / Hazardous Waste

- US EPA
  - No specific regulations for disposal of Biohazards
  - Check state regulations for tracking shipments and disposal
- Can the TSDF treat for both?

P042?



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## Latest EPA Proposal

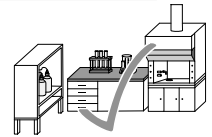
- 71 FR 29712, May 23, 2006
- Alternative requirements for college and university laboratories
- Accredited, with laboratories on campus
- Performance based standards



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## Latest EPA Proposal What the rule means to you

- To whom does this apply?
- Colleges and Universities only
  - Laboratories only
    - Where teaching or research occurs
    - Includes art studios/programs
    - **Excludes** photography labs, computer labs, auto shops, medical facilities



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## Latest EPA Proposal What the rule means to you

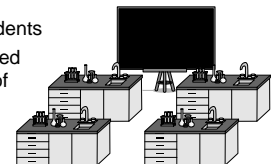
- To whom does this apply?
- If your state adopts the rule:
    - Neither more nor less stringent than current rules
  - CESQGs not subject:
    - More stringent than 40 CFR 261.5



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## Latest EPA Proposal What the rule means to you

- Why a special rule for academic labs?
- Many points of generation
  - Many different wastes in small quantities
  - Wastes generated by students
  - Impractical to have qualified personnel at every point of generation



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## Latest EPA Proposal

### What the rule means to you

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Performance based standards

- Flexibility to select method for compliance
- Consider parameters such as:
  - Campus size
  - Personnel size
  - Available resources



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## Latest EPA Proposal

### What the rule means to you

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New definitions:

- CAA: Central Accumulation Area
- College and University
- Laboratory
- Laboratory Clean-Out
- Laboratory Worker
- RCRA-Trained Individual
- Reactive Acutely Hazardous Unwanted Material
- Unwanted Material



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## Latest EPA Proposal

### What the rule means to you

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Waste ID: Where?

- In the laboratory
  - Before removal
  - By a RCRA-trained person



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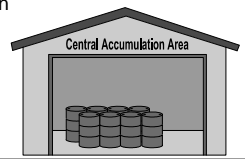
## Latest EPA Proposal

### What the rule means to you

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Waste ID: Where?

- Sent to CAA or on-site TSDF
  - ID at that location
  - Within 4 days (included in 90/180 days)
  - By a RCRA-trained person



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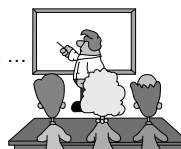
## Latest EPA Proposal

### What the rule means to you

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Waste ID: By whom?

- Not restricted to the individual generating the waste
- Anyone who is part of what EPA calls a "person" generating the waste
  - Person = college or university
  - Anyone = lab staff, EH&S officer, ...



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## Latest EPA Proposal

### What the rule means to you

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Laboratory Management Plan (LMP)

- Must develop, implement, and retain
- Describes how you will meet the standards
- How? Left to your discretion
- All or none: all laboratories under the same EPA ID number



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## Latest EPA Proposal

What the rule means to you

### Laboratory Management Plan (LMP)

- Include elements described in 40 CFR 262 Sub K
  - Container labeling
  - Container management
  - Training/instruction requirements
  - Scheduled removal of unwanted materials
  - Safe on-site transportation of unwanted materials
  - Emergency preparedness and response procedures

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## Latest EPA Proposal

What the rule means to you

### Laboratory Management Plan (LMP)

- Must be dated
- Copies accessible to those working with unwanted materials
- Review and revise as needed
- Deviations from the plan: violation or not?



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## Latest EPA Proposal

What the rule means to you

### Container management

- Labeled "unwanted material"
- Cautionary compliance information
- Manage properly
- Mark accumulation start date
- Remove unwanted materials every six months



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## Latest EPA Proposal

What the rule means to you

### Container management

- Mark the date it exceeds allowable quantity limit
  - 55 gallons unwanted materials
  - 1 quart reactive acutely hazardous
- If in excess, remove entire quantity
  - Within 10 calendar days, or
  - The next scheduled removal



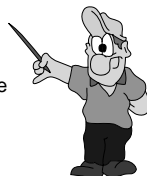
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## Latest EPA Proposal

What the rule means to you

### Training

- Students
  - Instruction for their activities
- Laboratory workers:
  - Formalized training for their assigned functions
- Those involved in waste ID and on-site transportation
  - Full RCRA training



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## Latest EPA Proposal

What the rule means to you

### Laboratory clean-outs:

- Once per twelve months per lab
- 30 days to sort through
- Won't count towards status
- Specific records required



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## Latest EPA Proposal

What the rule means to you

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If this rule is finalized  
AND  
Your state adopts it  
AND  
You choose to follow this option  
THEN

**Must notify**  
the EPA Regional Administrator or the  
State Director of your intent to follow the  
alternative rule



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## Latest EPA Proposal

What the rule means to you

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The EPA will still recommend:

- Go beyond the minimum under LMP
- Think beyond laboratories
- Put in place an EMS to manage overall impact on the environment



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## Questions

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## Thank You

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