

**Hazardous Waste at Academic Laboratories:  
Final Rule**

(40 CFR part 262 - Subpart K)  
effective December 31, 2008



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Formal Title -  
'Alternative Requirements for Hazardous Waste  
Determination and Accumulation of Unwanted  
Material at Laboratories Owned by Colleges and  
Universities and Other Eligible Academic  
Entities Formally Affiliated With Colleges and  
Universities'

Working Title -  
Hazardous Waste at Academic Laboratories



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Limited Eligibility – Only for colleges and  
universities, teaching hospitals and  
nonprofit research institutes that are either  
owned by or formally affiliated with a  
college or university.

Optional - Eligible academic entities may  
also choose to remain subject to the pre-  
existing hazardous waste generator  
requirements



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EPA adopted this rule in order to tailor RCRA regulations to the unique environment of academic laboratories.

- Existing generator regulations are more geared to industrial facilities and do not fit well in educational facilities. Industrial waste generators typically produce large volumes of a few waste streams
- College and university laboratories, on the other hand, produce a relatively small volume of many different types of waste. As such, academic laboratories find it difficult to comply with the existing regulations.
- Most individuals involved in hazardous waste generation activities at college and university laboratories are students. Students are inherently transient, which makes it more difficult to train them



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How does this alternative rule differ from current rules:

- Provides flexibility with regard to where and when the hazardous waste determination can be made (i.e., in the laboratory before it is removed from the laboratory, or within four calendar days of arriving at an on-site CAA, or on-site TSDF. ('Unwanted Material')
- Utilizes a performance-based approach for management of unwanted materials in the laboratory via a customized Laboratory Management Plan (LMP) developed by the academic entity as opposed to a strict prescriptive approach (although there are some definitive do's and don't's).
- Reduces unintended regulatory consequences associated with laboratory clean-outs of unused commercial chemical products by allowing 30 days to conduct a clean-out and by not having to count the hazardous waste generated during those 30 days towards the generator status.



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How does this alternative rule differ from current rules:  
(cont.)

- Allows the use of "working containers" defined as 'a small container (i.e., two gallons or less) that is in use at a laboratory bench, hood, or other work station, to collect unwanted material from a laboratory experiment or procedure', not acceptable under the current satellite accumulation policy.
- Expands the conceptual definition of a "laboratory" to include photo laboratories, art studios, field laboratories, and chemical stockrooms and preparatory laboratories that provide a support function to teaching or research laboratories (or diagnostic laboratories at teaching hospitals).



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How It Works  
(As usual the devil is in the details - 108 page rule)

(9) Major Requirements:

1. Notification
2. Container Labeling
3. Container Standards
4. Training Requirements
5. Removal Frequency of Unwanted Materials
6. Making the Hazardous Waste Determination
7. Laboratory Clean-outs
8. Laboratory management plan
9. Recordkeeping



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1. Notification (Entry and Withdrawal) - EPA Site Identification Form
2. Container Labeling  
*On the container:* The words "unwanted material" or another equally effective term and information to alert emergency responders to the contents of the container.  
  
*Associated with the container:* start accumulation date and Information sufficient to allow a HW determination (identify whether an unwanted material is a solid and hazardous waste and assign the proper hazardous waste code(s)).



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3. Container Standards
  - maintained and kept in good condition
  - compatible with their contents
  - kept closed at all times, except when adding, removing or consolidating unwanted material, some exclusions
4. Training Requirements  
Laboratory workers and students be trained commensurate with their duties.



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5. Removal Frequency of Unwanted Materials

- Choice:
  - (1) Remove all containers of unwanted material from each laboratory on a regular interval, not to exceed 6 months; or
  - (2) Remove containers of unwanted material from each laboratory within 6 months of each container's accumulation start date
- Volume Limitation

If a lab accumulates a total volume of unwanted material in excess of 55 gallons or 1 quart of reactive acutely hazardous unwanted material before the regularly scheduled removal, must ensure that all containers of unwanted material

  - (i) Are marked with the date that 55 gallons is exceeded; and
  - (ii) Are removed from the laboratory within 10 calendar days of the date that 55 gallons was exceeded,



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6. Making the Hazardous Waste Determination

- Must be made by a trained professional.
  - Can be made in the lab or at a CAA (central accumulation area) or on-site TSDF
  - Can transfer "unwanted material" to a CAA or on-site TSDF. Determination must be made within 4 calendar days of arriving at the CAA/ TSDF central accumulation area
- If an unwanted material is a hazardous waste:
- Write the words "hazardous waste" on the container label that is affixed or attached to the container and the appropriate hazardous waste code(s) before the hazardous waste is transported off-site.
  - Count the hazardous waste toward the eligible academic entity's generator status, in the calendar month that the hazardous waste determination was made.
  - An unwanted material that is a hazardous waste is subject to all applicable hazardous waste regulations when it is removed from the laboratory.



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7. Laboratory Clean-outs

- One time per 12 month period for each laboratory,
- not required to count a hazardous waste that is an unused commercial chemical product (generated solely during the laboratory clean-out) toward its hazardous waste generator status (exempt from onsite regulatory requirements only - ex. LQG training).
- Unwanted materials count - the eligible academic entity has 30 calendar days from the start of the laboratory clean-out to remove all unwanted materials from the laboratory (instead of the normal 10 days for non-clean out situations)
- For the purposes of off-site management, an eligible academic entity must count all its hazardous waste, regardless of whether the hazardous waste was counted toward generator status



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8. Laboratory Management Plan

- Two parts with a total of nine elements

Part I (specifically enforceable)

Procedures for container labeling

(i) Identify whether the eligible academic entity will use the term "unwanted material" or other term.

(ii) Identify the manner in which information that is associated with the container" will be imparted.

(iii) Identify removal frequency



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8. Laboratory Management Plan (cont.)

Part II - (best management practices)

- (1) best practices for container labeling and management,
- (2) best practices for providing training for laboratory workers and students commensurate with their duties
- (3) best practices for providing training to ensure safe on-site transfers of unwanted material and hazardous waste by trained professionals
- (4) best practices for removing unwanted material from the laboratory,
- (5) best practices for making hazardous waste determinations,
- (6) best practices for laboratory clean-outs
- (7) best practices for emergency prevention



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9. Recordkeeping

- (1) notification(s);
- (2) formal written affiliation agreements;
- (3) training records for laboratory workers if facility is LQG;
- (4) laboratory clean-out documentation;
- (5) Laboratory Management Plan



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**Revised Position on Satellite Accumulation**  
Effective Date: September 1, 2008



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As both USEPA and NJDEP jointly administer the RCRA Enforcement Program in New Jersey, it is imperative for both these agencies, and the regulated community, to maintain consistent regulatory interpretations.

The satellite accumulation provision allows generators to accumulate, in specific areas, up to 55 gallons of hazardous waste (or 1 quart of acute hazardous waste) in containers, with fewer requirements than normally required for central accumulation areas



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The legitimacy of satellite accumulation area determinations shall be made on a case by case basis. NJDEP shall follow USEPA guidelines along with the following clarifications:

- A satellite accumulation area shall be limited to compatible waste streams.
- NJDEP no longer condones the use of a conveyance container (i.e. a laboratory safety can) to move or convey waste from an initial generation point (i.e. work station) to another satellite accumulation container. In order to maintain consistency with USEPA and avoid confusion, the conveyance container itself is considered a satellite accumulation container and has to be managed in accordance with N.J.A.C. 7:26G-6.1 specifically 40 C.F.R. 262.34(c).



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- With regard to laboratory wastes, small containers (e.g., vials or tubes) which are too small to be labeled individually, can be placed in properly labeled larger containers, which would have the added benefit of secondary containment should the small containers break.
- Containers, such as beakers, flasks or other laboratory glassware including four-liter bottles, that are connected to laboratory apparatus or a piece of equipment, are not considered part of the process and are therefore subject to accumulation rules and regulations.
- A generator may accumulate waste in a satellite accumulation area exclusively, without having less than 90 day accumulation area or on-site authorized facility, provided each container is shipped off site within three days from the date "excess accumulation" begins.




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**The 10 most cited violations for NJDEP's Hazardous Waste Program (2008)**

Violated Citation	Description	Count of Violations
40 CFR 262.34(a)(2)	Failure of generator to clearly mark container with date when accumulation period begins or to make mark visible for inspection.	48 (21%)
40 CFR 262.34(a)(3)	Failure of generator to clearly mark each container or tank with the words "Hazardous Waste". \$4500 - \$45,000	28
40 CFR 265.174	Failure of facility owner or operator to perform inspection of each area where containers are stored.	24
40 CFR 265.37	Failure of facility owner or operator to make required arrangements with police or fire departments, emergency response contractors, equipment suppliers, or local hospitals, or to document any such authority's refusal of such arrangements.	22
40 CFR 265.35	Failure of facility owner or operator to maintain sufficient aisle space for the unobstructed movement of personnel or equipment in an emergency.	21
N.J.A.C. 7:26A-6.4(d)4	Failure of used oil generator to comply with used oil labeling/marketing requirements.	20
40 CFR 262.11	Failure of generator of solid waste to determine if waste is hazardous. \$5000- \$45,000	19
40 CFR 262.34(c)(1)(ii)	Failure of generator to mark satellite containers with the words "Hazardous Waste" or other words which identify the contents of the container. \$4500 - \$45,000	18
40 CFR 273.14(e)	Failure of Small Quantity Handler of Universal Waste to properly label or mark universal waste lamps or containers of universal waste lamps.	15
40 CFR 265.173	Failure of facility owner or operator to comply with requirements for the management of containers.	14
<b>FY08</b>	<b>3133 inspections - 297 actions (NOV's/Penalties) \$637.5K penalties</b>	

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**E-Manifest Pilot Program**

- Utilization of electronic manifests in the hazardous waste shipping industry saving upwards of \$400 million annually in paper handling, storage and data management costs nationwide.
- New Jersey, Michigan, Minnesota and Massachusetts have joined forces and received a grant from the USEPA to conduct a pilot with an aim to supplement or replace the existing paper-based manifest tracking system with an e-Manifest process that takes advantage of key Exchange Network technologies.
- The pilot system has been designed and developed and is currently undergoing testing by state agencies and industry representatives.




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**Hazardous Waste Handler Seminars**

- Since 2006 approximately 600 individuals have participated.
- Developed the Hazardous Waste Training Opportunities WebPage. The webpage was developed to facilitate on-line seminar registration and to keep the regulated community informed about events, provide updated regulatory information, and survey the regulated community regarding the type of educational programs and general information required. The webpage is at: [http://www.state.nj.us/dep/enforcement/hw\\_seminar.html](http://www.state.nj.us/dep/enforcement/hw_seminar.html)



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