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## Environment, Safety, Health Directorate

### Administrative Procedure

# Sorption Without A Permit

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## **1.0 INTRODUCTION**

The purpose of this document is to provide requirements for sorption of hazardous waste without a permit. This document is managed and owned by the Associate Directorate Environment, Safety and Health and provides instructions on the applicability of the requirement.

### **1.1 Purpose**

The procedure summarizes the requirements in 40 CFR §264.1(g)(10), §270.1(c)(2)(vii), and §264.314.

### **1.2 Scope**

This document applies to any LANL employee, contractor, or sub-contractor who has been identified as a waste generator.

## **2.0 PRECAUTIONS AND LIMITATIONS**

This procedure cannot establish new requirements; it may only summarize the requirements in federal/state statutes/regulations/permits, DOE Orders, and authorized Laboratory policies.

## **3.0 GENERAL REQUIREMENTS**

The LANL Permit and RCRA regulations prohibit “treatment” without a permit, unless specific exemptions are met. The United States Environmental Protection Agency provided a sorbent material exemption, which allows generators and TSDF operators to place sorbents (e.g., zeolite kitty litter) in a container without a permit provided certain criteria are met. Any questions regarding implementation or interpretation of these requirements should be addressed by ENV-CP at 7-6259.

The addition of sorbent material to hazardous/mixed waste in a container (or adding hazardous/mixed waste to sorbent material) is considered to be “treatment,” which requires a RCRA permit unless the addition of sorbent qualifies for the exemption under 40 CFR §264.1(g)(10) and §270.1 (c)(2)(vii). To be exempt, the generator or operator must meet the following requirements:

- The sorbent must be added to waste in a container (or waste is added to the sorbent) at the time waste is first placed in the container,
- The addition of sorbent cannot create an ignitable, reactive, or incompatible waste, and
- The sorbent must be compatible with the type of waste and container; cannot result in reactions that damage the structural integrity of the container or facility.

To be compliant with these requirements, LANL has established a procedure to (1) make a “compatibility determination” (ADESH-AP-TOOL-115) conducted by designated subject matter experts (SMEs) to ensure that the sorbent material can be safely mixed with the waste, including secondary materials, and will not result in potential reactions or damage to the container, including

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the inner liner; and (2) ensure that the addition of absorbents is *well-documented for safe and compliant processing*.

## Questions

The questions below will help you determine if you meet the exemption, and must be resolved and documented prior to the addition of sorbents.

1. Timing: Is the sorbent material added to the waste in a container [or waste added to sorbent material in a container] at the same time the waste is first placed in the container?
  - Transferring of hazardous waste from one container to another container at the same time that a sorbent is added is covered under the exemption.
  - Adding sorbents at some other time after the hazardous waste is first placed in a container (e.g., after it is closed) would constitute treatment requiring a permit.

**NOTE:** Addition of waste or sorbent that require the container be re-opened would not be covered under the exemption.

If you answered yes to the question above, you must document the basis for this decision and address Question Nos. 2 through 4 regarding compatibility prior to the addition of any absorbents. If you do not feel qualified to answer Question No. 1, are unsure, or answered no, please call 7-6259.

2. Compatibility: the following questions require a compatibility determination (CD) and must be resolved prior to the addition of the absorbent to ensure that the absorbent can be safely mixed with the hazardous/mixed waste, including secondary materials.
  - A. Is the sorbent compatible with the waste, including secondary materials, and cannot create an ignitable, reactive, or incompatible waste?
  - B. Is the sorbent compatible with the waste, including secondary materials, and cannot result in *potential reactions: heat generation, fire or explosion, gas and flammable gas generation, fume or flammable fume generation, or toxic dusts or mists?*
  - C. Is the sorbent compatible with the container (including the inner liner) so as not to result in potential reactions or damage to the container, or inner liner, including *corrosion or decay?*
    - These questions require completion of a CD by qualified SMEs to ensure that the absorbent is compatible with the type of waste and cannot create an ignitable, reactive, or incompatible waste or result in reactions, including damage to the solid structural integrity of the container or device.
    - The CD involves qualified SMEs review for chemical compatibility of mixing the proposed sorbent material with the waste pursuant to Appendix V, part 264 and EPA's Chemical Compatibility Chart.

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- The CD must be documented to ensure safe and reliable processing, and includes information such as: the type and amount of sorbent used (and accompanying MSDS or other product information); description of the waste stream, and any secondary materials; confirmation that the sorbent is non-biodegradable; documentation that a CD analysis was performed, and the date and signature of the persons completing the CD.

**NOTE:** The use of biodegradable sorbents is prohibited in RCRA wastes to be landfilled.

If you answered yes to each of the questions above, you have met the permit exemption.

#### 4.0 GENERATOR TRAINING

See Waste Management Procedure P409, Section 6.0.

#### 5.0 DEFINITIONS AND ACRONYMS

**Compatibility** -means that the hazardous/mixed waste can be safely mixed with sorbent material and may not result in any of the following potential reactions: heat generation, fire or explosion, gas and flammable gas generation, fume or flammable fume generation, toxic dusts or mists, or corrosion or decay of the container, including the inner liner.

**Secondary material** - means miscellaneous materials associated with waste processing that are placed into daughter drums during repackaging. Examples of secondary waste includes gloves, tools, rags, wipes (Kimwipes), plastic labels, tags, Personal Protective Equipment (PPE), plastic sheeting used for contamination control, and original packaging material (e.g., plastic bags, plywood sheathing, rigid liner lids cut into pieces).

**Sorbent** - means a material that is used to soak up free liquids by either adsorption or absorption, or both.

**Treatment** - means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.

See LANL [Definition of Terms](#).

See LANL [Acronym Master List](#).

#### 6.0 RECORDS

Records generated by this document will be submitted for records management in accordance with P1020-1, Laboratory Records Management and if applicable, with the ADESH-AP-006, Records Management Plan.

- Documentation must be kept by the waste generator per ADESH-AP-TOOL-115, Waste Compatibility Determinations.

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## **7.0 TRAINING**

See Waste Management Procedure P409, Section 6.0.

## **8.0 REFERENCES**

N/A

## **9.0 ATTACHMENTS OR APPENDICES**

N/A