

## Spill Kits

A nanomaterial spill kit should be readily available in or near each laboratory working with nanomaterials. A nanomaterial spill kit may contain the following:

- Caution tape
- Nitrile or other chemically impervious gloves
- Disposable laboratory coat with elastic wrists
- An N95 or P-100 for which you have been fit tested annually
- Absorbent material (e.g., kitty litter, Vermiculite, etc.)
- Pre-moistened wipes
- Sealable plastic bags (e.g., Ziploc® bags)
- Walk-off mat (sticky mat)
- HEPA-filtered vacuum (labeled as “nanomaterial use only”)
- Spray bottle with water
- Nanomaterials and hazardous waste label (if needed).
- Hazardous waste containers with leak-proof caps

## Nanomaterial Spill

- Be prepared! The Principal Investigator (PI) is responsible for training the staff to clean up a small spill.
  - Verify the staff spill training by sending an e-mail to EH&S with the names and BlazerIDs of those trained as well as the date and time of the training. This is the job of the PI.
  - Evacuate the lab if necessary.
  - Activate cleanup team. Only individuals with appropriate PPE, training, equipment (proper spill kit), and authorized for a response to entering the affected area.
  - Notify EH&S if necessary. If the staff is not prepared to handle the cleanup of a small spill, they may contact EH&S at (205) 934-2487.

## Spill Kits, Spills, and Waste Disposal of Nanomaterials at UAB

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- Check for contamination!
  - Check shoes, clothing, and other articles for evidence of contamination with nanomaterials on those who were in the room when the spill occurred.
  - Remove the contaminated items from the person and place them in a plastic bag.
  - Evacuate the room.
- Close interior doors leading to other rooms.
- Access control (barricade the area and prevent people without PPE from entering the site until the cleanup is complete and EH&S has cleared the area.)

### Liquid Spills

- Cover the spill with wet materials such as wet wipes or wet paper towels.
- Apply absorbent materials (e.g., absorbing “pigs,” spill pillows, liquid traps, etc.)
- Apply a disinfectant over the wet material.
- Wait the designated time listed on the bottle.
- Clean up the spill moving in concentric circles from the outside to the inside.
- Collect and dispose of spill cleanup materials as nanomaterial-bearing waste.
  - Contact EH&S for an inspection of the air quality if you are uncertain about whether most of the spilled material was recovered or not sure about the air quality.
- Dispose of the clothing and materials that may have come in contact with the nanomaterials or bag and seal them.
  - Never launder with other items. If you are sending it out for laundering, the bag must have a warning label like the one used for labeling and waste.
- Wash your hands thoroughly using soap and warm water.



# Spill Kits, Spills, and Waste Disposal of Nanomaterials at UAB

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## *Dry Material Spills*

Use a designated HEPA vacuum to contain the spilled dry nanomaterials. The vacuum must be labeled **For Nanomaterials ONLY**. Never use compressed air or a broom to clean up dry materials. Dry sweeping would spread the nanomaterials. Use the instructions for cleaning up liquid spills if you do not have a designated HEPA vacuum.

## Disposal

Any material coming into contact with nanomaterials becomes nanomaterial-bearing waste (e.g., gloves, other PPE, wipes, blotters).

- Never put nanomaterial-bearing waste into the regular trash or down the drain!
- Collect nanomaterial-bearing waste in closed, tightly sealed, labeled, unbreakable containers.
- Label the container with both a nanomaterial and hazardous label (if it contains a hazardous chemical) when the first piece of waste is placed in it. If the nanomaterial waste stream has any chemical hazards associated with it, which takes priority over nanomaterial hazards, for example, if the nanomaterial is dispersed in a flammable liquid, then label as flammable. If the liquid is corrosive, then label as corrosive. If the nanomaterial is made of toxic metals, label toxic.
- Keep the container in a laboratory fume hood until it is ready for disposal. The container must remain sealed unless adding waste to it.
- When the container is full:
  - Secure the lid.
  - Remove it from the hood.
  - Place it in a second sealed container in a satellite accumulation area (SAA).
  - Complete the Hazardous Waste Manifest. Make sure that it clearly states NANOMATERIALS.
  - Check the date on your transcript for the last time you completed the [Hazardous Waste Handling and Packing \(CS055\)](#) course if you are completing the manifest. It must be within the last 365 days before you can send the manifest, or it will be returned.
  - Send the manifest to UAB EH&S Support Facility.

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## Absorbent Pad Spill Kit Clean-Up

1. Step One: Locate and don the appropriate PPE for your spill.
2. Step Two: Locate your labs Absorbent Spill Kit.
3. Step Three: Take the absorbent barrier out of the kit and place around the spill.
4. Step Four: Place the absorbent pad directly on the spill. It may take more than one.
5. Step Five: Get the Hazardous Materials bag out of your spill kit. Place the used absorbent pads in the bag.
6. Step Six: Put an UAB Hazardous Material Label on the outside of the bag and properly fill it out.
7. Step Seven: Make sure the bag is securely tied and ready for waste removal. Place in your lab's secured Satellite Accumulation Area.



### Dry Spill Kit Clean-Up

1. Step One: Locate and don the appropriate PPE for your spill.
2. Step Two; Locate your labs Dry Spill Kit.
3. Step Three: Spread kitty litter around the edge of the spill.
4. Step Four: Cover the spill completely with kitty litter.
5. Step Five: Once the spill has been absorbed, you need to sweep it up.
6. Step Six: Place the wet kitty litter in the appropriate waste container.
7. Step Seven: Make sure your waste container is properly labeled and ready for waste removal. Place in your labs Satellite Accumulation Area.

