

Healthcare hazardous waste training for minimal quantity (MiniQG) and very small quantity (VSQG) generators

Minnesota Technical Assistance Program

UNIVERSITY OF MINNESOTA

Who is the audience for this training?

- Healthcare staff working in small to medium-sized locations that have been identified as MiniQG or VSQG waste generators.
- “Staff” includes anyone who:
 - 1) Packages or prepares hazardous materials, such as the person who oversees the hazardous waste program at your site.
 - 2) Any employee who dispenses, delivers, or comes into contact with pharmaceuticals, facility or lab chemicals, or other hazardous wastes (such as batteries and electronics).
 - 3) Job titles may include physicians, nurses, nursing assistants, medical assistants, therapists, pharmacists, laboratory technicians, maintenance workers, environmental services staff, clinic administrators, administrative assistants, and so on.

What will I learn?

At the conclusion of the learning program the participant will be able to:

- Dispose of uncontrolled pharmaceutical waste.
- Dispose of other chemical wastes, batteries, and electronics.
- Dispose of infectious waste.
- Know what to do in the case of a hazardous waste emergency (large or small spill).

What is hazardous waste?

- The Federal Environmental Protection Agency (EPA) defines Hazardous Waste as: Any material because of its quantity, concentration, or chemical, physical, or infectious characteristics may cause harm to human health, or the environment if improperly treated, stored, transported or disposed of.
- The hazardous waste regulatory and enforcement agency in our state is the Minnesota Pollution Control Agency (MPCA). In the Twin Cities, the seven metro counties are in charge of hazardous waste enforcement.
- All healthcare facilities in Minnesota are subject to unannounced hazardous waste inspections by county, state, or federal regulators.

Why are there laws to regulate healthcare hazardous waste?

- Numerous scientific studies have determined that the hazardous properties found in some pharmaceuticals are polluting our environment and our ground water.
- Publicly owned treatment works (POTWs) do not effectively treat waste pharmaceuticals, thus creating an issue for both humans (who can develop resistance to common antibiotics) and declining ecosystem health.



What might be hazardous here?

Many items in healthcare are hazardous waste. This may include:

- Pharmaceuticals (partial vials, expired, etc)
- Disinfectants and cleaning chemicals
- Laboratory kits and chemicals
- Aerosol cans and hand sanitizer
- Batteries, electronics, light bulbs and medical equipment
- Any material bearing the words “poison, poisonous, toxic, lethal, fatal, or deadly” or with a “skull & crossbones” graphic

How do I dispose of it - pharmaceuticals?

- Pharmaceuticals generally get collected in a black “RCRA” waste box (pictured).
- Your black box should be kept in a medication prep area (out of reach of patients/visitors).
- Draw up your medications as usual. If any unusable portion remains in the vial, dispose of it in the black box.
- Pills, creams, and other types of pharmaceuticals can also be disposed of in your black box.



How do I dispose of it – unused and unexpired pharmaceuticals?

- Ask your manager or supervisor if your facility participates in something called “reverse distribution.”
- Reverse distribution is when you send unopened, unexpired, and unused pharmaceuticals back to the manufacturer or wholesale pharmacy (usually for financial credit).
- If you do not use a reverse distributor, then you must throw your unusable items into the black box.



Are all pharmaceuticals hazardous?

No! However...

- If you only want to collect items that have been deemed to be hazardous, then the state requires that you **FORMALLY EVALUATE YOUR WASTE STREAM.**

What is an evaluation?

- You must create a list of all waste generated at your facility and indicate, via an evaluation process (testing, research, etc) whether it is or is not a hazardous waste.
- More information about waste evaluations can be found on MnTAP's healthcare hazardous waste webpage.

Are empty containers hazardous?

- Generally, no! Empty containers such as vials, packaging, blister packs, IV's, and syringes are *not* considered hazardous.
- “Empty” rule of thumb: All you can get out by reasonable means and less than 3% by volume.
- Hazardous waste can be as much as 15x the cost of regular trash; only use a black box when you *must* do so.



Exception to the “empty” rule

There are four p-listed (**acutely toxic**) drugs. Not only do the left-over medications (if there are any) go into a black box, but so do the packaging they come in. This includes the foil wrappers, blister packs, vials, or any other packaging type.

1. Warfarin (Coumadin)
2. Physostigmine
3. Arsenic Trioxide
4. Nicotines (unused)



Can I dispose of medications for our patients?

- In general, it is unlawful to accept medication back from patients. Some counties *do* allow residents to drop off medications, so patients should check with their county for more details on local program availability.
- You may also print and give patients hand-outs created by the MPCA describing how to **safely dispose of medication and needles** (we have provided a link to those hand-outs at the end of this training).
- If a patient leaves a medication in a way that is out of your control, consult your supervisor for guidance.



How do I dispose of it – chemicals and laboratory wastes?

- Unused, unwanted or outdated chemicals should be placed in the hazardous waste storage area and contain the words “hazardous waste” somewhere on the container. Containers must be dated, and tightly closed, before being left in the hazardous waste storage area.
- Care should be taken when storing incompatible wastes near one another; for example, acids and bases should be stored with some distance between them. You should use secondary containment (like a plastic tote) for storing all hazardous wastes.
- The hazardous waste vendor will evaluate, sort and dispose of the hazardous chemicals correctly. Remember that empty containers can go into the regular trash or recycling.
- *Good tip:* When in doubt, let the vendor check it out!

How do I dispose of it – batteries, electronics, and light bulbs?

- All batteries (including alkaline and rechargeable) should be collected for proper recycling. Place in an appropriate collection bin at your facility; if you don't have one, you can make one by simply labeling any pail or a box to say "waste batteries for recycling."
- Anything with a circuit board should also be collected by placing items in the hazardous waste storage area. For large items (computers or medical equipment) contact your Biomed or IT department for assistance with proper donation or disposal.
- Fluorescent and other types of light bulbs must also be collected as universal (hazardous) waste in a *closed* container.



How do I dispose of it – infectious waste?

There are generally three types of infectious waste generated at small healthcare facilities:

- Sharps waste is defined as any item with projections capable of piercing the skin. This includes needles, blades, or scalpels. All sharps must be disposed of in properly designated containers.
- Red bag waste is defined as any item *saturated* with blood or body fluids or bags and IV tubing containing whole blood products. This does not include gowns or gloves (unless contaminated with blood), gauze or band-aids, or garbage. All items must go in a properly designated “red bag” container.
- Yellow bag waste is used *only* when chemotherapy is administered or there is ‘large tissue’ disposal occurring. For more information on yellow bag waste, visit MnTAP’s Healthcare Infectious Waste webpage.



Special waste topics

- IUDs (intra-uterine devices) are usually hazardous waste in Minnesota. When removed from a patient, they should be placed in a sealed urine cup or other small container, and then into your black box.
- Cidex and glutaraldehyde, if expired and unused, are hazardous wastes. The *used* liquid is not a hazardous waste, however, best practice would be to neutralize these chemicals before sewerage (several low-cost neutralizers exist on the market).
- If you are using lead-based sterilization indicator tape, pouches, or arrows, you'll need to dispose of it as hazardous waste.
- Imaging departments, clinical laboratories, nuclear medicine, dental offices, and veterinarian clinics tend to create wastes not seen elsewhere. For detailed information on these wastes, please visit MnTAP's Healthcare Special Waste Topics webpage.

Emergency preparedness

If there has been a chemical or biological spill at your facility, please note the following:

- Do not attempt to clean spills beyond your capability. If it is rapidly spreading beyond your control or is an unknown substance, call for emergency help.
- Do not clean spills without hazard knowledge of the spilled material and proper protective equipment; immediately notify your supervisor if there has been a spill.
- Manage spill response materials (spill kit contents or paper towels) as hazardous. If you do not know where your spill kit(s) are located, contact your supervisor.
- For large spills (typically more than 5 gallons) you should call your hazardous waste disposal company or another first responder as identified on your **emergency contact list**.
- Five general rules to follow in the event of a spill:
 - EVACUATE (leave spill area, alert others)
 - CONFINE (close doors, isolate the spill with absorbent material)
 - REPORT (to your supervisor or facility manager)
 - SECURE (until help arrives)
 - ASSIST (provide information about the spilled material)



Storage area inspection log, emergency contact list, and secondary containment

According to state and county laws, your facility is required to inspect your hazardous waste storage area weekly. You are also required to post an emergency contact list in this area.

For these and other free templates, checklists, and hazardous waste training tools, please visit our website at www.mntap.umn.edu and search for “waste training programs designed for healthcare.”



Thank you!

- Please take time to document your training today; we have a template available on our website.
- For free technical assistance on this or other topics, please call 612-624-1300 or email us at mntap@umn.edu.