

AZBA Biohazardous Waste Discussion Sheet

Q1: Is a pipette tip a sharp in the state of Arizona? How do you dispose of these pipette tips?

A pipette is defined as follows: “a narrow, usually calibrated glass tube into which small amounts of liquid are suctioned for transfer or measurement” or “measuring instrument consisting of a graduated glass tube used to measure or transfer precise volumes of a liquid by drawing the liquid up into the tube” or “A slender tube attached to or incorporating a bulb, for transferring or measuring out small quantities of liquid, esp. in a laboratory”.

Regulations:

Federal

- OSHA 29 CFR 1910.1030:
 - o *Regulated Waste* means liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials.
- Federal law does not provide explicit definitions of medical waste. Typically, this is defined at the State and Local level.

State (Phoenix is identical as State, 27-44)

- Arizona Administrative Code (AAC) R18-13-1401:
 - o Medical sharps: Discarded sharps used in animal or human patient care, medical research, or clinical laboratories. This includes hypodermic needles; syringes; pipettes; scalpel blades; blood vials; needles attached to tubing; broken and unbroken glassware; and slides and coverslips.

Discussion Summary

A pipette tip can be classified as a sharp object in that it can break the skin; however, this is not to say that a pipette tip is a “sharp” as defined in federal, state and local code. Most attendees agree that a pipette tip would not be required under current regulations to be containerized in an approved sharps container in the same manner as a syringe, glass Pasteur pipette or blood vial. However, improving safety when a risk is identified is something that must be addressed. Therefore, ensuring pipette tips do not break through biohazard waste bags is critical. This can be addressed in a number of ways:

- Always using the “thicker” biohazard waste bags (2 mil +)
- Placing tips in a smaller red bag followed by placement in a larger red bag (2 layers)
- Re-purpose empty plastic bottles or other containers for collecting tips (if left unattended at any point, must include a biohazard sticker)
- Audit for compliance with policies that prohibit over-filling waste bags

Q2: Who is “treating” their own waste in regards to solid autoclave waste? Meaning is anyone autoclaving their waste and then placing it in the municipal trash instead of a secondary waste pickup (e.g. clean harbors, Stericycle, etc.)?

Discussion Summary

Very few treat their own waste and send to municipal trash for the following reasons:

- High cost
- Difficulty associated with tracking/record keeping
- Training requirements
- State regulations may not allow it or you have to be licensed.

Most both autoclave and send to waste vendors such as Stericycle or Waste Management for final treatment and disposal or simply send untreated waste to the biohazardous waste vendor for treatment and disposal.

One group indicated treating waste for disposal. Records for any treatment, regardless, include the autoclave strip wheel (time/temperature/pressure log), spore testing, re-bag into black bags and then place in dumpster.

Q3: Is any spore testing being performed after autoclaving in your facility/entity?

Discussion Summary

One group runs a spore test for every run even with BSL2 materials. Most others only run a spore test with BSL3 materials as is required. For those who send material out to a biohazardous waste vendor, spore testing is either not done or is done as part of routine autoclave maintenance, in which case monthly testing is performed.

Kathleen will contact Ryan Bayha at OBA to ask about specific requirements for spore testing with rDNA materials if materials are handed off to a biohazardous waste vendor. *Follow-up:*

Ryan stated: “While not explicit in the *NIH Guidelines*, if you were to use an autoclave, there should be some type of validation to ensure that it is working properly. The method of validation is left up to the institution.”

Q4: How is mixed waste disposed of? (e.g., Ethidium bromide in a PCR gel).

Discussion Summary

Various procedures are followed by different groups. Some examples include:

1. Disinfect with compatible materials and send as chemical waste.
2. If extraction reagents mitigate biohazards, send out as chemical waste (sterility checks may be warranted) or as ‘incineratable’ biohazardous waste
3. Ethidium bromide in PCR is not biohazardous and can be handled as Non-RCRA hazardous waste or as municipal trash depending on quantity of EB. Some institutions take an all or nothing approach to EB waste, others have an over/under concentration determination.

Best practices suggest mitigating one of the hazards associated with waste such that it can be sent out as either chemical or biological. When biohazards are neutralized, the waste can be sent as chemical waste provided it is allowed (profiled) by your chemical waste vendor.