

ACIDS AND BASES

Corrosive acids and bases are common waste products generated in campus laboratories. Corrosivity is the sole hazardous waste characteristic that can be treated by a generator onsite without an EPA permit.

Generators of corrosive wastes without other hazardous characteristics should neutralize the wastes to a stable pH between 5.5 and 9.5. The neutralized, non-hazardous waste can then be disposed of via the drain, followed by flushing with water (20 parts water).



The following three sections describe procedures for neutralizing acids and bases. Note: Neutralization is recommended only for very small volumes of corrosive acids and bases. You should perform neutralization only if you have been trained, understand the process, have the proper personal protective equipment, and feel comfortable doing it.

General Neutralization Procedures

- Conduct acid or base neutralization in a fume hood behind a safety shield, as vapor and heat may be generated. Wear a lab coat or apron, gloves, and goggles. A face shield used in combination with safety goggles is recommended. Note that a face shield alone is not sufficient; safety goggles must be worn with it.
- Keep containers cool during the process, such as by placing a beaker in a bucket with slushy ice.
- Work slowly.
- After neutralization is complete, dispose of the neutralized solution down the drain, followed by 20 parts water.
- Follow the specific neutralization procedures below for the acid or base you are neutralizing.

Acid Neutralization

- While stirring, add acids to a large amount of an ice water solution (1:10) of a base such as sodium carbonate, calcium hydroxide, or sodium hydroxide for concentrated acids.
- When the pH reaches between 5.5 and 9.0, dispose of the solution down the drain, followed by flushing with 20 parts water.

Base Neutralization

- Add the base to a large vessel containing water (1:10). Slowly add a 1M solution of Hydrochloric or sulfuric acid.
- When a pH of 5.5 to 9.0 is achieved, dispose of solution down the drain followed by 20 parts water to the neutralized solution.



For acids and bases that cannot be neutralized, submit an online pickup request using the EH&S Chemical/Bio Waste Pickup Request form available at: <https://csn.campusoptics.com/hw/chemical-bio-waste-pick-up-request-form>. Please contact EH&S at 702-651-7445 or ehs@csn.edu if you have any questions.