

**APPROVED TREATMENT AND PROTOCOLS  
FOR  
HAZARDOUS AND NONHAZARDOUS CHEMICALS**

1. Barium Chloride residues: Dissolve in water (not to exceed one L total volume) and add excess 3M H<sub>2</sub>SO<sub>4</sub>. After standing overnight, filter insoluble BaSO<sub>4</sub>, dry, mix with equal amount of sand and package for transfer to landfill. Neutralize the filtrate with NaOH and discard into the drain with excess running water.
2. Magnesium Sulfate or Zinc Sulfate residues: Dissolve in water (not to exceed one L total volume) and neutralize with NaOH. Filter insolubles, dry and package for transfer to landfill. Discard filtrate into the drain with excess running water.
3. Acid Solutions: HCl, HNO<sub>3</sub>, H<sub>2</sub>SO<sub>4</sub>, H<sub>3</sub>PO<sub>4</sub> and Acetic (Vinegar). Neutralize with NaHCO<sub>3</sub> or NaOH, total volume of solution not to exceed one L. Discard neutralized solution into the drain with excess running water.
4. Basic Solutions: NaOH, KOH, Ca(OH)<sub>2</sub> and Al(OH)<sub>3</sub>. Neutralize with HCl, total volume of solution not to exceed one L. Discard neutralized solution into the drain with excess running water.
5. Oils - Vegetable or mineral: No Treatment Allowed. Add oils to “**used**” oil container for disposal by CBARS.
6. Solutions of Hazardous Salts: No Treatment Allowed. Solutions of hazardous salts must be disposed into proper liquid used chemical containers (separate containers for light and heavy metals) for disposal by CBARS.
7. Solid Hazardous Salts: No Treatment unless specifically approved by CBARS. Solid hazardous salts must be disposed into proper solid used chemical containers (separate containers for light and heavy metals) for disposal by CBARS.
8. Solutions of Non-hazardous Salts: No Treatment Required. Dissolve any residue in water and discard into the drain with excess running water.
9. Solid Non-hazardous Salts: No Treatment Required. Package for transfer to landfill.
10. Alcohols - No Treatment Required: Solutions of water soluble alcohols (<24% by volume) may be discarded into the drain with excess running water. Solutions of water soluble alcohols (>24% by volume) must be disposed into proper liquid used chemical containers for disposal by CBARS.
11. Alcohols - No Treatment Allowed: Solutions of water insoluble nonhazardous and hazardous alcohols must be disposed into proper liquid used chemical containers for disposal by CBARS.
12. Formaldehyde Solutions: Add about 1 mL of bleach per 1 % formaldehyde concentration per mL of solution, let stand for 20 minutes and discard into the drain with excess running water. However if there are other hazardous chemicals in the solution, e.g., chloroform, etc., then this method is not applicable. That chemical solution would need to be placed in a liquid used chemical container for disposal by CBARS.
13. DAB Solutions: Add 50 mL of bleach to one L of water in a one gallon plastic container. Pour no more than 250 mL of DAB solution into the plastic container and mix by shaking. Allow container to stand at least 24 hours before discarding into the drain with excess running water.
14. Dilute Solutions of Ethidium Bromide (e.g., electrophoresis buffer containing 0.5 micrograms/mL ethidium bromide).

Method 1: The following method is from Lunn and Sansone (1987)

1. Add 2.9 g of Amberlite XAD-16 for each 100 mL of solution, total volume not to exceed 500 mL. Amberlite XAD-16, a nonionic, polymeric absorbent, is available from Rohm and Haas.
2. Store solution for 12 hours at room temperature, shaking it intermittently.
3. Filter the solution through a Whatman No. 1 filter and discard filtrate into the drain with excess running water.