

Hazardous Waste Disposal Guidelines in the Firearms Section

Background

In accordance with the North Carolina State Crime Laboratory (State Crime Laboratory) Safety Manual, a hazardous waste determination has been performed in the Firearms Section. The items requiring special handling are included in this procedure.

Hazardous waste generated by the Firearms Section include laboratory waste (chemical and solvents) as identified in the attached disposal guide. The purpose of this guide is to assist Section personnel with hazardous waste regulatory requirements and ensure that Federal and State requirements are satisfied. Employees with questions concerning waste disposal procedures should contact the Section Safety Officer or the Laboratory Safety Officer.

Hazardous Waste Management Procedures:

1. Each Firearms Section employee shall properly dispose of all used and unused chemicals and solutions.
2. Laboratory sink drains shall not be used for the disposal of hazardous materials and other chemical waste, except as specifically identified in this guide.
3. Every attempt shall be made to separate hazardous waste from bio-hazardous waste. If this is not possible, it is possible to dispose of hazardous waste in biohazard waste containers.
4. Concentrated acids and bases shall not be flushed down the Laboratory drain at any time unless previously neutralized. However, for solutions which have a pH between 3 and 12, do not contain any known hazardous or toxic materials, or otherwise meet the definition of a characteristic waste, the solution may be disposed of by flushing down the Laboratory drain. Working solutions of acids may be neutralized by the addition of dilute base, such as sodium hydroxide, while working solutions of bases may be neutralized by the addition of dilute acid, such as hydrochloric acid. The pH of a solution is to be determined using a calibrated pH meter or suitable litmus paper.
5. Empty Containers-Generally, empty bottles or containers are not considered hazardous waste. These containers shall be rinsed in the sink to remove any remaining residue, the labels removed or defaced, and the bottles disposed of in an appropriate trash container. Containerized liquids shall not be disposed of in the general Laboratory trash.
 - A. Empty containers of acutely hazardous material (e.g., cyanide), referred to as a P-listed material by the EPA, shall be triple-rinsed and the rinsate collected and disposed of as hazardous waste. After the container has been triple rinsed and the labels removed or defaced, they may be disposed of directly into a trash container.
 - B. Empty bottles containing residues of flammable solvents, such as methanol, that are hazardous only on the basis of their flammable characteristic, shall be rinsed out and the rinsate discharged down the Laboratory drain. This disposal is permitted only if, during the rinsing process, the flammable is diluted with sufficient water to eliminate the flammable characteristic prior to disposal.

6. The contents of each waste container shall be clearly identified. The waste container shall be kept closed at all times, except when adding waste. Waste containers shall be filled to $\frac{3}{4}$ capacity to prevent the buildup of excessive vapor pressure and to allow adequate room for expansion. When the waste container is filled to $\frac{3}{4}$ capacity, the Section Safety Officer shall be notified for proper disposal.
7. The appropriate personal protective equipment (i.e., gloves, chemical splash goggles) shall be used and skin contact shall be avoided when working with chemicals. Whenever possible, all processes are to be performed in a chemical fume hood.

Disposal Guide for Firearms Section Reagents

Waste	Components	RCRA Code	Disposal Procedure
Hydrochloric Acid Solutions (concentrated, 5%)		D002	Adjust to a pH > 3 and dispose of down the drain. Rinse empty containers and place in a trash container.
Acidic Ferric Chloride Solution (pH 4-6)	Ferric Chloride Hydrochloric Acid Water	D002 D002	Unused solution may be flushed down the Laboratory drain. Rinse empty containers and place in a trash container.
Ferric Chloride Solution (pH6)	Ferric Chloride Water	D002	Unused solution may be flushed down the Laboratory drain. Rinse empty containers and place in a trash container.
Fry's Reagent (pH2)	Cupric Chloride Hydrochloric Acid	D002	Properly label for hazardous waste disposal ("Corrosive Chemical Waste: Fry's, Turner's and Davis Solutions"). Rinse empty containers and place in a trash container.
Sodium Hydroxide Solutions (concentrated, 10%, 10N, 2N)		D002	Adjust to a pH < 12 and dispose of down the drain. Rinse empty containers and place in a trash container.
Nitric Acid Solutions (Concentrated, 25%)		D002	Adjust to a pH > 3 and dispose of down the drain. Rinse empty containers and place in a trash container.
Turner's Reagent (pH2)	Cupric chloride Hydrochloric acid Ethanol Water	D002 D001	Properly label for hazardous waste disposal ("Corrosive Chemical Waste: Fry's, Turner's and Davis Solutions"). Rinse empty containers and place in a trash container.
Davis Reagent	Cupric chloride Hydrochloric acid Water	D002	Properly label for hazardous waste disposal ("Corrosive Chemical Waste: Fry's, Turner's and Davis Solutions"). Rinse empty containers and place in a trash container.
Acetone		D001	Small amounts may be evaporated. Larger quantities shall be labeled and placed in the hazardous waste storage for disposal. Remove cap from empty containers and allow to dry. Place empty containers in a trash container.
Birchwood Casey Brass Cartridge Case Cleaner (concentrated, 5%)		D002	Adjust to a pH > 3 and dispose of down the drain. Rinse empty containers and place in a trash container.

Swabs / Gun Cleaning Patches –used for cleaning and serial number restoration		Swabs shall be dried thoroughly. Properly label for hazardous waste disposal (“Hazardous Waste” and “May Contain Lead”).
Gun Oil and Cleaner		Properly label for hazardous waste disposal (“Hazardous Waste” and “May Contain Lead”).
Fired bullets and cartridge cases		Store fired bullets and cartridge cases in metal containers marked either “Lead,” “Fired Bullets” or “Fired Cartridge Cases” and turn over to State surplus.

