

# University of Tennessee

## HPLC (High Performance Liquid Chromatography)

### Waste Collection Guidelines

In order to comply with state and federal hazardous waste requirements, containers used to collect HPLC (and other lab equipment) waste must remain closed and properly labeled as a hazardous waste if there is waste being stored in these containers, regardless of whether the HPLC is in operation. It is **not acceptable** to place a waste line running from the HPLC unit into an **open waste container**. There are two options you can use to meet this requirement. You can purchase a cap designed for HPLC collection, or you can make modifications to an existing cap and container. In either case, **secondary containment is a requirement**, and the HPLC waste container must be properly labeled with a yellow UT hazardous waste label. Below are several examples of improper HPLC waste collection practices.

#### Examples of Improper HPLC Waste Collection Practices

Open Waste Container; No Secondary Containment



Open Waste Container; No Secondary Containment; Unlabeled



Open Waste Container; Unlabeled; Original Markings on waste container



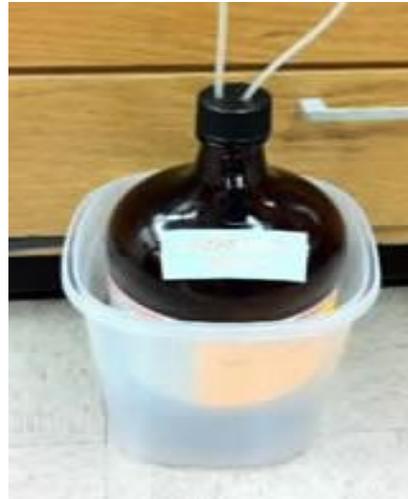
No Secondary Containment



Below are several examples of correct HPLC waste collection practices.

## Examples of Correct HPLC Waste Collection Practices

Waste containers are closed, labeled, and stored in secondary containment.



One of the following practices must be employed in order to comply with hazardous waste regulations for HPLC waste collection systems:

1. **Purchase an engineered container and/or cap designed for HPLC waste collection.** Below are some examples that show several examples of acceptable solutions for proper HPLC waste collection that can be purchased.

## Examples of Proper HPLC Waste Collection Options for Purchase

Safety Cans



Ported (no threads) Cap



4 Port (threaded) Cap



Solvent Bottle Cap



The research lab may purchase these bottle caps from Fisher Scientific, Sigma, Lab Safety Supply, or other distributors.

2. **Modify an existing cap.**

An existing cap can be modified by the research lab for HPLC waste collection. To modify an existing cap, a hole can be drilled into a cap. The diameter of the hole should be similar to the diameter of the waste line; there should be a tight fit between the container opening and waste line. In addition, a hole should be drilled to accommodate any exhaust filter or air valve tube that may be required. It is recommended that either a 4-liter container or 5-gallon carboy be used for waste collection. The modified cap should be replaced with a regular, unmodified cap once the container is full and ready for REM pickup. See the table below for examples of acceptable modified caps. If an existing cap is modified, aluminum foil or paraffin should be added around the top and secondary containment must be used.

### Examples of Proper HPLC Waste Collection with Modified Caps

Exhaust Filtered	2 Line Carboy	2 Line Glass 4 L	Foil	Parafilm®
				

For questions concerning HPLC waste management, please contact Environmental Health and Safety at 974-5084 or [safety@utk.edu](mailto:safety@utk.edu).