

## Laboratories Pollution Prevention Tip Sheet

### **Waste Streams Generated**

Wastewater  
Solvents, halogenated and non-halogenated  
Waste samples  
Reagents, expired chemicals, P or U listed wastes  
Sanitary sewer discharges

### **Pollution Prevention/Waste Minimization Tips**

- a) Substitute hazardous chemicals in the lab with non-hazardous or less hazardous, where possible. Some examples of this are:
  - Substitute sodium hypochlorite for sodium dichromate
  - Substitute alcohol for benzene
  - Substitute cyclohexane for carbon tetrachloride in the standard quantitative test for halide ions
  - Substitute acetamide with stearic acid in phase change and freezing point depression experiments
  - Use potassium hydroxide or sonic baths in place of chromic acid solution to clean glassware
- b) Contact other organizations or labs who could use excess product or slightly contaminated product that is no longer usable in your facility.
- c) Maintain a limited inventory of chemicals on hand so those chemicals do not expire or deteriorate and use front end purchasing controls. Keep a running inventory of unused chemicals for use by other departments.
- d) Reuse and recycle spent solvents.
- e) Some small quantities of liquid wastes may be discharged to the Public Owned Treatment Works (POTW) sanitary sewer, with the approval of the POTW operator. Other non-hazardous waste may be disposed of at a State permitted landfill if prior disposal authorization is obtained.
- f) Use procedures to reduce metallic mercury use (e.g., replace mercury-bearing instruments with alternatives, work with researchers to identify reagent substitutes for mercury salts, and develop a procedure for work on plumbing fixtures in old lab facilities).
- g) Reuse solvents with rotary evaporation

The following is a rotary filter dryer unit found at a lab in Wyoming that actively recovers process solvent vs. passive drying



### **Bibliography**

1. Environmental Management Guide For Small Laboratories, USEPA 233-B-00-001, May, 2000