

# **Colorado State University**

## ***HAZARDOUS CHEMICAL WASTE SYSTEM MANUAL***

***ENVIRONMENTAL HEALTH SERVICES***

***January 2015***

Hazardous Waste Manager 491-6532

Environmental Health Services: 491-6745



EHS Home: [www.ehs.colostate.edu](http://www.ehs.colostate.edu)

Haz-Waste Online: [www.ehs.colostate.edu\WHazWaste](http://www.ehs.colostate.edu\WHazWaste)

## **Ten Golden Rules for Hazardous Waste Management**

1. Training: complete the initial on-line training or complete annual retraining at least once every twelve months.
2. Determine if the waste material you generate can be shared, recycled, or minimized in the laboratory.
3. Determine whether the waste may be disposed to the sanitary sewer system or the landfill **LEGALLY**.
4. If the waste cannot be shared, recycled, or disposed to the sewer or landfill, treat it as hazardous waste.
5. Label hazardous waste properly with the following; (1) all chemical components (no abbreviations),  
(2) name of the generator, (3) accumulation start date or date when the material was declared a waste and (4) the words **HAZARDOUS WASTE**.
6. Close the container and store the waste in a secure Environmental Health Services approved satellite accumulation area.
7. Submit an online electronic Request for Disposal (eRFD) to Environmental Health Services via the website. Print and save paper eRFDs and labels. Label each of your containers with the eRFD pickup labels. Package the waste into boxes and place into your waste site.
8. Perform the required weekly inspections of all your satellite accumulation area waste sites and record the results online at [www.ehs.colostate.edu/WHazWaste](http://www.ehs.colostate.edu/WHazWaste). Click on the “Online Weekly Inspection” tab to submit your inspection.
9. Review your procedures to see how waste may be minimized in the future.
10. Spread the word. Encourage responsible waste management. CSU will not protect generators from legal action if they willfully violate the regulations.

### **Acknowledgments:**

This manual is a combination of many contributors over many years and EHS would like to acknowledge each author for their hard work in the production of this manual.

#### ***List of contributors alphabetized:***

**Abiecunas • Borchert • Giglio • Leffler • Wartenbe • Wheeler**

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## **I. Introduction**

Colorado State University generates approximately 55 tons of hazardous waste per year. The cost of disposal ranges from about \$1 to more than \$5 per pound. It is likely that these costs will continue to increase. State and Federal regulations prohibit land disposal of untreated hazardous wastes. Therefore, nearly all of the hazardous waste generated at CSU is sent to a commercial hazardous waste incinerator or permitted fuel-blending facility. Each dollar spent disposing of hazardous waste is one less dollar for faculty or student support, equipment, new facilities or for program development.

Responsible purchasing policies, effective waste minimization programs, and segregation strategies have the potential to contain costs for the near future. However, it is up to each individual using hazardous materials to minimize or eliminate hazardous waste generation. The use of alternative chemicals that do not have to be treated as hazardous waste when they are discarded and reducing the size and scope of laboratory experiments to control the amount of waste produced are effective options. It is necessary for researchers, faculty, staff, and graduate students to consider hazardous waste disposal as a normal cost of doing business and to minimize this cost wherever possible.

### **FEDERAL AND STATE LAWS STIPULATE THAT EACH INDIVIDUAL WHO GENERATES HAZARDOUS WASTE IS PERSONALLY LIABLE AND IS RESPONSIBLE FOR ASSURING COMPLIANCE WITH REGULATIONS AND PROPER HAZARDOUS WASTE MANAGEMENT.**

EHS staff would be grateful for your suggestions as to how we can work together to address hazardous waste management effectively.

### **Responsibilities of the Colleges and Departments**

Each college and department within the University must assure that personnel who generate hazardous wastes have received training in the safe use of hazardous materials and the CSU hazardous waste handling system. In addition, departments are responsible for ensuring that generators are complying with the University policy regarding hazardous waste management. Training covering the CSU hazardous waste handling system is provided by EHS.

Each department which has laboratory facilities for teaching or research must assure that a mechanism is in place for hazardous waste disposal when graduate students, faculty or staff members complete their work and leave the University. It is the responsibility of the individual and their department to see that such waste is properly identified and disposed of through the CSU hazardous waste system. Chemicals left in laboratories after their owners have moved on create a serious burden for faculty or staff moving into vacated facilities. Unknown or improperly labeled chemicals can significantly increase the costs to the department for waste identification and to the University for waste disposal. EHS cannot legally accept unknown materials. The analysis of unknown wastes is the responsibility of the department generating the waste.

In addition, each college and department must provide all necessary equipment (containers, spill kits, pH paper, etc.) for proper hazardous waste handling and disposal.

## **Responsibilities of All Hazardous Waste Generators**

In general, the responsibilities of all hazardous waste generators include:

1. Receiving the proper training for laboratory safety and/or materials handling pertaining to the proposed laboratory or maintenance activities being conducted including chemical, biological or radioactive materials.
2. Declared a currently trained Principal Investigator (PI) and have access to an approved satellite accumulation area.
3. Identifying all activities that are to be conducted in each laboratory or maintenance area and determining if those activities will result in the generation of waste **PRIOR TO COMMENCING THOSE ACTIVITIES**. Activities that are expected to create large quantities of hazardous waste must be discussed with the Hazardous Waste Manager at EHS prior to initiation.
4. Identifying each type of waste and determining the proper disposal method for each type of waste.
5. Label any waste containers with proper initial hazardous waste labels and making sure all containers are in good conditions and closed.
6. Perform weekly inspections of your designated satellite accumulation area waste site.
7. Preparing waste for disposal using the eRFD website and printing the eRFD pickup labels and securely taping them on the **SIDE** of each container. Properly package waste for pickup from EHS and place into your designated waste site.
8. Adhering to all the requirements outlined in this manual as well as any other applicable policies (radiation program, biohazards, state and federal regulations, etc.).



## Online Normal Generators Duties

Website: [www.ehs.colostate.edu/WHazWaste/Online](http://www.ehs.colostate.edu/WHazWaste/Online)

Logon to the above website using your EID. Once logged on, the “My Dashboard” (figure-1) will display with a variety of information: (Information, Classification, Waste Disposal Info, Training, Waste Sites, PI’s Employees, and PI’s Projects).



Figure 1 Normal Haz-Waste Generator Dashboard

### **My Information:**

Displays information pertaining to you. If changes are needed click the “Edit My Info” link, make changes, then click “Update”. It is your responsibility to make sure this information is current. To change your username or password, click the “Change My Username/Password” link. The website will allow you to change your username, password, or both.

### **My Classification:**

EHS classifies each person as a Principal Investigator (PI), Manager, or Worker. If your classification is either a worker or manager, you will be able to determine your PI status and need to change the PI you are registered under.

### **My Waste Disposal Info:**

This is a yearly total of waste that you have generated and the yearly total of waste generated under your Principal Investigator, which includes your waste and anyone else registered under that PI.

### **My Request for Disposal (Electronic Request for Disposal eRFD):**

Will display any un-submitted eRFD's or eRFD's awaiting EHS Removal. How to submit eRFD found on page 15

### **My Training:**

Displayed is current training information including the last time you had training and when your current training will expire. Every year you will be required to take an online retraining test. An email will be sent to you 30 days before your retraining is due instructing you to take the online retraining test.

### **My PI's Waste Sites (“Hazardous Waste Satellite Accumulation Areas”):**

Is a list of your PI's current active waste sites. Remember to inspect your waste site by either clicking “Open” or using the button on the top of the page “Weekly Inspections”. See how to details on page 17.

### **My PI's Employees:**

Only Principal Investigator (PI) or Managers can alter this information

### **My PI's Projects:**

Only Principal Investigator (PI) or Managers can alter this information

## **Responsibilities of the Principal Investigator (PI)**

The Principal Investigator, the laboratory supervisor or maintenance supervisor is responsible for ensuring that all laboratory/maintenance area users follow all regulations and policies pertaining to safety and the proper handling/disposal of all wastes. These wastes can include solid (non-hazardous) waste, chemical waste, biological wastes, radioactive wastes and/or mixed wastes.

In general, the responsibilities of the PI include:

- 1. Responsibilities of All Hazardous Waste Generators listed previous (page 2-3)**
- 2. Ensure all employees have training in the following (as necessary):**
  - a. Hazardous waste
  - b. Radiation
  - c. Biosafety
- 3. Register ANY Hazardous Waste Satellite Accumulation Sites with EHS**
  - a. Waste sites can be shared with other PIs but only one PI must register and be responsible.
  - b. EHS allows only one waste site per room.
  - c. Can add, edit, or remove waste site online on main dashboard.
- 4. Weekly Inspections of all Waste sites**
  - a. Make sure that inspections are conducted on a weekly basis
  - b. Anyone who is listed under the PI's project can conduct inspections
  - c. Do periodic spot checking to insure all employees performing all operations correctly
  - d. Weekly Inspection can be conducted by PI, Managers, or workers assigned to the PI's project
  - e. Required Inspection conducted online via EHS website (see "how to" details on page 17.)
- 5. Register Active PI's Projects**
  - a. Complete this online
  - b. General Description Start and End Date
  - c. Can combine Project's into one with longest date
- 6. Ensure that all Employees are following all hazardous waste regulations and lab procedures**
  - a. Verifying Employees that they are adhering to all the requirements outlined in this manual as well as any other applicable policies (radiation program, biohazards, state and federal regulations, etc.).

## Online Principal Investigator Duties

Website: [www.ehs.colostate.edu/WHazWaste/Online](http://www.ehs.colostate.edu/WHazWaste/Online)

Logon to the above website using your EID. Once logged on, the “My Dashboard” (figure-2) will display with a variety of information: (Information, Classification, Waste Disposal Info, Training, Waste Sites, PI’s Employees, and PI’s Projects).

The screenshot shows the "Welcome Andy Borchert to CSU Hazardous Waste Online Dashboard". The dashboard is divided into several sections:

- My Dashboard:** Includes links for "Open eRFD", "Weekly Inspections", and "Chemical Recycling".
- My Information:** Displays personal details: First Name (Andy), Middle Name (Matthew), Last Name (Borchert), Work Phone (970) 491-3795, All Pro ID (472-9412), Email (borchert@colostate.edu), Department (Environmental Health Services), Building (General Services Building), Room (2145B). Includes "Edit My Info" and "Change My Username/Password" buttons.
- My Training:** Shows Haz Status (Active), Last Training (2/25/2008), Due Date (3/25/2009), and a "Training Certificate & History" link. A yellow smiley face icon indicates training is active.
- My Registered Waste Sites:** Lists "Hazardous Waste Site" (Edit Test Hazardous Waste Project) and "Last Inspected" (3/24/08, Open).
- My Current Employees:** Shows a table with columns Employee, Type, Training, and Due. It lists "Administrator" (Worker, Due 06/07/08, Pending) and "Andy Borchert" (PI, Due 03/25/09).
- My Registered Projects:** Shows a table with columns Project Title and Description (e.g., "It's a test").
- My Waste Disposal Info:** Shows waste removed in 2008: "My Total Waste" (0 items, 0 lbs) and "PI's Group Total Waste" (0 items, 0 lbs). Includes a "View Disposal History" link.
- My Request for Disposal:** Shows unsubmitted requests for disposal, listing "Created - Waste Site" (201408 0154 General Services Building) and "Created By" (Andy Borchert).
- PI's Group Waste Submission Awaiting EHS pickup (Non-Editable):** Shows "All eRFD have been Pickup by EHS. Click to View Haz Waste Disposal History".

Figure 2 Principal Investigator Dashboard

### **My Information:**

It is your responsibility to make sure this information is current.

### **My Classification:**

EHS classifies each person as a Principal Investigator (PI), Manager, or Worker. Classification as a PI, you will not be able to change this online you must contact EHS hazardous waste division to be removed as a PI.

### **My Waste Disposal Info:**

This is a yearly total of waste that you have generated yourself and the yearly grand total of waste including your waste and anyone else registered under your project.

### **My Request for Disposal (Electronic Request for Disposal eRFD):**

Will display any un-submitted eRFD's or eRFD's awaiting EHS Removal. How to submit eRFD found on page 16

### **My Training:**

Displayed is the last time you had training and when your current training will expire. Every year you will be required to take an online retraining test. An email will be sent to you 30 days before your retraining is due.

### **My Registered Waste Sites ("Hazardous Waste Satellite Accumulation Areas"):**

Display your current active waste sites. To Edit waste site information click the "Edit" link next to the site's name. To deactivate the site under edit change the status from active to inactive. To request a new waste site click the "Add New Waste Site" link. If the site already exists under a different PI you must share the site or have that PI relinquish the site. Then add it to your project.

### **My Current Employees:**

Lists trained generators under your project. If an employee is missing, it could mean two things: One their status is inactivated which they will be required to complete the online training or they are under a different PI's project.

### **My Registered Projects:**

Displays your listed current registered projects showing PI project's Title, start and end date. Make adjustments by clicking the "Edit" or the "Add New Project" links.

## **Special Notes to All Hazardous Waste Generators and PIs**

1. Do not mix or combine any incompatible chemicals (See Appendix B). Be sure the container is acceptable for the contents and disposal pick-up (**do not use Bio Bags**). In addition, do not package and/or store incompatibilities adjacent to one another.
2. The safety of the EHS personnel picking-up and handle the hazardous waste is dependent upon their training in handling chemicals, explosives and other hazardous materials. Their ability to use this training effectively requires a complete and accurate eRFD label being attached to the side of each waste container. In addition, the generator must ensure that all components of the waste are listed on the eRFD. A copy of the eRFD left with the waste for pick-up is suggested.
3. **IMPROPER DISPOSAL OF HAZARDOUS WASTE IN THE TRASH OR "DOWN THE DRAIN" CAN RESULT IN CIVIL AND CRIMINAL PROSECUTION OF THE INDIVIDUAL RESPONSIBLE.** Colorado State University solid waste system is routinely monitored by City, and County officials for the presence of any hazardous waste constituents. Further, there are numerous sampling locations within the University sewer system to identify the source of pollutants disposed down the drain.
4. The accumulation date depends on the way the waste was generated. While cleaning a chemical storage area and deciding to discard some old chemicals, the material becomes hazardous waste as soon as you decide to discard it. Usually, the accumulation date is the date on which the first drop of waste was placed in a collection container.
5. It is critical that waste being accumulated in a satellite accumulation area be labeled and stored properly. No facility on campus is allowed to accumulate a waste for more than 90 days or to have more than 55 gallons of hazardous waste or one quart of acutely hazardous waste in a satellite accumulation area. Once the 55-gallon limit is reached, the waste must be removed to the Hazardous Waste Storage Facility within 24 hours. The Fire Code as to the maximum quantity of total "flammable/combustible" material that may be stored there further restricts laboratory areas. Please adhere to all guidelines presented under the section entitled "Storage of Hazardous Waste" for requirements of satellite accumulation areas.
6. EHS will only accept an eRFD submitted by a trained generator and approved PI. All generators must complete the initial online training as well as fulfill the requirements for annual retraining.



It is important to plan ahead for the disposal of hazardous waste!! An Electronic Request for Disposal must be submitted to EHS at least two weeks prior to the 90 day limit. The only way to avoid exceeding the storage limit is to submit timely and accurate Electronic Requests for Disposal to EHS.

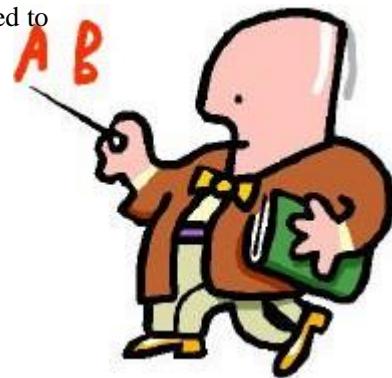
*Failure to meet these requirements could result in penalties and fines assessed against the university and/or individual waste generators.*

## II. Hazardous Waste Training Requirements

### Initial Training (Web Based Training)

Colorado Department of Public Health and Environment regulations stipulate that all individuals who generate hazardous waste must receive documented training. EHS is only allowed to accept hazardous waste from individuals who have received training in general requirements of hazardous waste management and the specific procedures for managing waste at CSU. **Any person who generates hazardous waste must receive hazardous waste generator training!**

EHS offers hazardous waste training online. Completion of the online training is required for all individuals who use hazardous chemicals.



### Refresher Training (Web Based Retraining)

In addition, the state requires that all individuals have documented retraining annually. As with the initial online training, EHS provides the means to satisfy the annual retraining requirement. This is generally accomplished through an online retraining test that can be taken at the convenience of the user.

Generators should keep track of the date they received their initial training or go online to check when they are due for retraining. If you do not receive an e-mail informing you to go online and take your annual retraining test, please contact EHS hazardous waste office. You must complete the refresher training on an annual basis.

### Training Records

Individuals must complete the online test every year after the initial training. The test is accessible 24 hours a day from any computer with web capability and each generator will be e-mailed a notification within 30 days before your training expires. Individuals who have not completed the online training test within two months after their training expires will be removed from the active generator record. Individuals without documented retraining within the last 12 months must complete the online initial training again before their hazardous waste can be accepted by EHS.

### III. Hazardous Waste Guidelines

Individual users of hazardous materials have specific duties and responsibilities regarding hazardous waste handling and disposal under state and federal law and University policy. These responsibilities include hazardous waste identification and waste minimization as well as proper waste storage and disposal. Generators must follow these guidelines to protect the health and safety of themselves, their coworkers and EHS hazardous waste staff.

#### Identification of Hazardous Waste

Each generator of chemical waste must determine if the waste is "hazardous" by considering the characteristics and the chemical composition of the waste. State law defines specific categories of hazardous waste. If the waste generated fits under any one of the classifications given, it must be handled through the hazardous waste disposal system.

#### Unknown Hazardous Waste

If the material cannot be identified by either prior knowledge of the process that produced it, or by a proper label, it must be analyzed. **The cost of analysis is the responsibility of the department generating the waste.** CSU's RCRA permit states that we are prohibited from taking unknown wastes. EHS must only accept waste properly identified by chemical name or its hazardous characteristics. EHS can analyze a small sample to determine its hazardous constituents ~\$100 a sample.

#### Characteristic Waste

The following are wastes that are hazardous because they exhibit a certain hazard characteristic as described below:



##### **Ignitable waste:**

Any waste product that has a flash point less than 60 °C (140 °F) is considered an ignitable hazardous waste. If it is not a liquid it can cause a fire by friction, absorption of moisture, spontaneous chemical changes. Additionally all oxidizers are defined as ignitable as well. Consulting reference texts that describe physical properties of the waste best makes this determination.



##### **Corrosive waste:**

Any liquid waste with a pH less than or equal to 2 or greater than or equal to 12.5 is considered a corrosive hazardous waste. The criteria for the city of Fort Collins are even more restrictive and a pH less than 5 or greater than 11.1 is considered a corrosive hazardous waste. The waste may continue to be hazardous, based on other characteristics, even if the pH is adjusted to be within these limits **The City of Fort Collins monitors the CSU sewer lines frequently to detect hazardous chemicals.**



##### **Reactive waste**

Any sulfide or cyanide bearing waste, any waste that is explosive or pyrophoric (air reactive), or any waste that can combine violently with air or water to produce heat, light or toxic products is considered to be a reactive waste. These wastes require special handling, especially if they are shock sensitive or if they exhibit other particular characteristics. (Common examples of potentially shock sensitive material include crystallized picric acid and ether opened for more than six months and not tested for explosive peroxides, or ether in containers that have deteriorated.) EHS must be notified of such special characteristics of reactive waste prior to scheduled pick-up. *If you find, unexpectedly, a reactive waste such as crystallized picric acid please call environmental health services immediately for information on handling and precautions to be taken. Do not move the waste, but ensure that it is in a secure area.*



### Toxic Waste

Waste products are generally considered toxic if they have adverse effects on organisms in relatively low doses or small quantities. The EPA has published lists of toxic and acutely toxic waste as well as wastes which could enter the environment through leaching into groundwater (Toxicity Characteristic (TC) wastes, see Appendix A). If the waste is considered toxic under any of these criteria, it must be handled through the hazardous waste system.

Larimer County regulations prohibit disposal of some "unregulated" chemical wastes in the landfill. (Guidelines for disposal to the dumpsters are described in this manual.) Regardless of their toxicity, laboratory chemicals that are allowed in the landfill under the guidelines in this manual may not be put in laboratory wastebaskets but must be taken directly to the dumpsters. Chemical wastes which do not have the characteristics of ignitability, corrosivity or reactivity and do not appear on the lists of toxic wastes (Appendix A), but which cannot be put into the landfill under Larimer County regulations must be disposed through EHS. If you have any questions about the proper, handling of chemical, wastes please call Hazardous Waste Manager at 491-6532 or EHS at 491-6745.

### Listed Waste

These are wastes that are hazardous because they are placed on a list (pages 22-27) prepared by the EPA.

**F-waste list (pg. 22)** - This list consists of non-specific source wastes commonly produced by manufacturing and industrial processes.

**K-waste list** - This list consists of source wastes from specifically identified industries.

**P-waste list (pg. 23-24)** - This list consists of wastes that are discarded commercial chemical products, off-specification species, container residues, and spill residues that produce acute, immediate hazards. Any waste on this list must be disposed of as a hazardous waste by EHS.

**U-waste list (pg. 25-27)** - This list consists of wastes that are discarded commercial chemical products, off-specification, container residues and spill residues that produce chronic/long-term hazards. Any waste on this list must be disposed of as a hazardous waste by EHS.

These lists found in Appendix A of this manual.

### MIXED WASTES

There are several different types of hazardous wastes that are produced at CSU. They include:

1. Chemical wastes - laboratory chemicals, solvent mixtures, mercury, gas cylinders, and a variety of materials from facilities maintenance such as paints, custodial chemicals, and pesticides.
2. Infectious wastes-materials that have the potential of producing disease such as bacterial cultures, blood and body fluids, etc.
3. Radiation wastes- any material, which has come into contact with a radioactive isotope and has a detectable radiation level.

### **MIXED WASTES (Continuation)**

Each type of hazardous waste has a specific set of regulations that govern its handling and disposal. **When two or more of these types of hazardous wastes are combined, the combination is known as a mixed waste.**

Mixed wastes present a multitude of problems. Not only are there possible problems concerning the compatibility of the mixture, but the regulations concerning its handling and disposal also become mixed. For example, a vial of toluene that has come into contact with a radioactive isotope (with a long half-life) is both chemical hazardous wastes (toluene) as well as a radioactive waste (due to the isotope). The waste has to be handled according to regulations specific for each hazard. This example would be subject to BOTH hazardous waste and radiation waste regulations.

***CSU encourages all laboratory users to avoid processes that will create a mixed waste.*** Laboratory users must consider hazards such as chemical compatibility, infectious waste production, and radioactivity prior to beginning work on a project. Generators of mixed wastes must also attend training sessions for each type of waste being generated (chemical or radiological). Contact EHS prior to beginning a project that will produce a mixed waste. EHS can assist you in finding alternatives in order to prevent a mixed waste from being produced. For example, there are several scintillation cocktail fluids available that are environmentally safe (contain no hazardous constituents) and their use will not produce a mixed waste. You should also consider any modification to the process that would allow the hazardous constituent and the radioactive constituent to be collected separately or completely avoid producing a mixed waste.

### **WASTE MINIMIZATION AND CHEMICAL RECYCLING**

Once an individual has determined that hazardous waste is being generated, options for disposal must be considered. As part of the University agreement with the State of Colorado, we must make significant efforts to minimize the amount of waste produced. Therefore, each individual must determine if another person or department can use any of the unneeded waste material.

## On-site Treatment and Disposal

Colorado State University does not have a Hazardous Waste Permit approved by the state and the EPA to allow for treatment of hazardous waste at CSU. On-site treatment of hazardous wastes to make them non-hazardous is therefore forbidden.

## Accumulating Waste

Every component added to the hazardous waste container must be accurately recorded and listed on the label and electronic Request for Disposal submitted. Waste, which is routinely generated, may be collected over a period of time before the Request for Disposal is submitted to EHS. For example, a researcher may repeatedly perform a simple separation that yields a few milliliters of waste solvent. The waste solvent is then poured into a suitable container such as a one-gallon glass bottle or a five-gallon can. From the first time, a drop of waste is put into the container it must be labeled (see right image) with the words: HAZARDOUS WASTE, a complete itemized list of the contents (chemical name and volume), the date the first amount of waste was placed in the container and the name of the responsible generator.

HAZARDOUS WASTE	
Contents [include full chemical name(s)and vol.]	
Acetone 60% Methanol 20% Sodium chloride 5% Tetrahydrofuran 5% Water 10%	
Responsible Person's Name:	Start Date:
Sure Generator's Name:	1/1/2008

Individual generators of hazardous waste must ensure that incompatible waste streams are not combined in the same container. Wastes from different processes should not be combined because of the possibility of adverse reactions and/or difficulty in disposal. All solids (glass, pipette tips, etc.) must be separated from the liquid phase of the waste. **All containers must be closed except when waste is being added.** Waste may not be stored in your registered satellite accumulation area for more than 90 days.

## Segregation of Solvent Wastes

EHS personnel consolidate solvent wastes into 55-gallon drums at the hazardous waste facility. Halogenated solvents (containing chlorine, bromine, etc.) are consolidated separately from non-halogenated solvents, as the cost of disposal is about four times greater for halogenated solvents. It is essential that the individual generators of solvent waste segregate these wastes and label them accurately so that this consolidation can be done properly and safely. **Just a small amount of a halogenated solvent in a non-halogenated drum can result in a significantly greater cost for disposal of the entire drum.** (Common halogenated and non-halogenated solvents are listed in Appendix C, page 30) Solvent wastes should not be combined with other types of wastes unless the waste is derived from the same process. The generator must make sure that NO incompatible chemicals have been combined. Wastes that contain incompatible chemicals must be stabilized before EHS will pick them up. EHS can be contacted for assistance with stabilizing incompatible waste mixtures.



Used oil should be marked as "Used oil" and not as "Hazardous waste" please only add oil to these containers.

## Lab Trash

Lab trash (surgical gloves, pipette tips, paper towels, etc.) should be segregated from chemical waste. Lab trash which has residual amounts of chemical can be disposed of as regular trash. The only exception is if the waste involved a "P-listed" chemical (see Appendix A). Lab trash contaminated with a "P-listed" chemical MUST be treated as a hazardous waste. Ethidium bromide gels and solutions should also be segregated from lab trash (gloves, pipette tips, paper, etc...). Any lab trash that is surface contaminated with a non (P-listed chemical page 23) can be thrown into dumpster.

## Storage Of Hazardous Waste

The Colorado Department of Public Health and Environment (CDPHE) consider each room or laboratory on campus where hazardous wastes are stored as a “satellite accumulation area.” EHS will routinely inspect these areas for compliance with the following requirements:

1. Wastes must be stored in containers made of material compatible with the contents. Corrosive materials must not be stored in containers that will deteriorate. Wastes must be compatible with other wastes and hazardous materials in the same area. Incompatible wastes such as strong acids and strong bases must be segregated.
2. The containers must be in good condition and must be closed except when adding or removing waste. Funnels cannot be left in the spout of the container. **The containers must be no more than 90% full or the waste will not be picked up by EHS.** It is the responsibility of the college and departments to provide suitable containers for the storage of hazardous waste. In some cases, EHS is able to supply various containers for the storage of wastes.
3. The initial container label must have the words “**HAZARDOUS WASTE**” and the **Start Date** when accumulation of the waste began must be clearly visible. In addition, the waste must be labeled with a description of all **Chemical Contents** and the name of the **Responsible Person**. Initial container labels are available from the EHS webpage:

HAZARDOUS WASTE	
Content (include full chemical name(s) and vol.)	
Acetone 60%	
Methanol 20%	
Sodium chloride 5%	
Tetrahydrofuran 5%	
Water 10%	
Responsible Person's Name:	Start Date:
Some Generator's Name	11/12/08

Word Doc: <http://www.ehs.colostate.edu/WHazWaste/PDF/hwlables.doc>

PDF File: <http://www.ehs.colostate.edu/WHazWaste/PDF/hwlables.pdf>

4. Hazardous waste must be removed to the Hazardous Waste Storage Facility within 90 days **from the date of the start of accumulation.** This means laboratories must plan ahead to prepare for disposal of the waste prior to the end of the 90-day storage limit.
5. No more than **55 gallons of hazardous waste or one quart of acutely\*** hazardous waste may be stored in any satellite accumulation area. See Appendix A: \* **EPA P-listed (pg 23-24)** wastes for a list of acutely hazardous wastes.
6. Room numbers or other identification of all locations where hazardous wastes are stored in each building must be registered with EHS and must meet all of the requirements for satellite accumulation areas.
7. The storage areas must be secured to prevent inadvertent access, i.e., locked when unattended.
8. Each satellite accumulation area must be inspected weekly by the individual responsible for that site to check for container deterioration, leaks, and compatibility with contents as well as for proper labeling. These inspections must be performed online every week.
9. The storage area should be out of the path of traffic.
10. Secondary containment should be provided for all waste containers to prevent a leak or spill.

**Please note: CDPHE and EPA inspectors have the right to inspect any satellite accumulation areas on campus at any time and to issue citations to the CSU for any violations.**

## **Guidelines for Disposal of Laboratory Wastes to the Dumpsters**

**HAZARDOUS CHEMICALS MAY NOT BE PUT IN CSU DUMPSTERS AT ANY TIME BECAUSE THE DUMPSTERS ARE TAKEN TO THE LARIMER COUNTY SANITARY LANDFILL.** However, some laboratory wastes are not hazardous by any definition and should not be entered into the hazardous waste stream. The following guidelines for determining which non-hazardous laboratory wastes are suitable for disposal through normal waste channels were developed in cooperation with the Larimer County Department of Natural Resources.



1. **NO LIQUIDS!!** Liquid wastes, i.e., bottles of unused or partially used solutions may not be disposed of in the dumpsters, as liquid wastes are not permitted at the landfill.
2. No wastes that are defined as hazardous by the EPA may be placed in the dumpsters. Pesticides are not allowed to be disposed of at the landfill. Car Batteries should also be disposed of through the EHS Hazardous Waste Department. Small batteries (AA, C, D etc.) can be sent through the CSU Recycling program 491-0113.
3. Empty containers of waste commercial products or chemicals are acceptable if **no freestanding liquid** remains in the containers and all disposal requirements noted on the label are complied with. Pesticide containers or those that contained acutely hazardous materials (P-listed wastes) must be triple rinsed. The rinse water must be treated as hazardous waste. Containers must be perforated on both ends and/or crushed.
4. Lab trash (gloves, pipette tips; paper, plastic or glass trash, etc.) that are **not** surface contaminated with a P-listed wastes (page 23) or not wet (no signs of liquids) can be disposed of in the dumpster
5. Disposal of sharps, animals, biological or infectious waste please contact the University Veterinarian (491-5668) and or the Biosafety officer (491-6729) for current disposal procedures.
  - a. Any animal preserved in formaldehyde or other chemicals must be separated before the carcass can be disposed of. Remove the carcass and squeeze it dry until no liquid can be extruded from the carcass, collect the liquid waste and dispose of it through EHS hazardous waste program. To dispose of the dry carcass contact the University Veterinarian 491-5668 about proper disposal.
6. **DO NOT USE BIO BAGS AS HAZARDOUS WASTE STORAGE BAGS!** Waste in these bags will not be accepted, even if they have been autoclaved and are material with heat sensitive tape.
7. Chemicals should not be placed in laboratory trash containers. Custodial personnel have been instructed not to handle any chemical wastes. However, certain solid, non-hazardous chemical wastes are suitable for disposal to the sanitary landfill. The following types of solid laboratory wastes that are generally considered non-hazardous or of low toxicity may be put directly in the dumpsters. (Solutions of such wastes should not be put in the dumpster. Check with Hazardous Waste Manager at EHS about sewer disposal.)

## **Common items known to be okay to be place into dumpster (solids) or sewer disposal (liquids)**

- a. Organic chemicals:
    - Sugars and starches (Mannose, Fructose, Glucose, Sucrose etc)
    - Naturally occurring (L/D) amino acids and salts
      - Ala, Arg, Asn, Asp, Cys, Gln, Glu, Gly, His, Ile, Leu, Lys, Met, Phe, Pro, Ser, Thr, Trp, Tyr, Val
      - Citric acid and its Na, K, Mg, Ca, NH<sub>4</sub> salts
      - Lactic acid and its Na, K, Mg, Ca, NH<sub>4</sub> salts
      - Acetates: Na, K, Ca, Mg, Al
      - Yeast Extract
      - DNA, RNA
      - Agar
  - b. Inorganic chemicals
    - Sulfates: Na, K, Li, Mg, Ca, Sr, NH<sub>4</sub>
    - Phosphates: Na, K, Mg, Ca, Sr, NH<sub>4</sub>
    - Carbonates: Na, K, Mg, Ca, Sr, NH<sub>4</sub>
    - Oxides: B, Mg, Ca, Sr, Al, Si, Ti, Mn, Fe, Co, Cu, Zn
    - Chlorides: Na, K, Mg
    - Fluorides: Ca
    - Borates: Na, K, Mg, Ca
    - Tartrates: Na, K, NH<sub>4</sub>
    - Talc
    - Epsom salts
  - c. Laboratory materials not contaminated with acutely hazardous chemicals (P-listed wastes):
    - Chromatographic absorbent
    - Silica Gel
    - Absorbent: Drierite, Kitty litter Floor Dry etc
    - All types of Dowex
    - Clay
    - Dirt
    - Filter paper, filter aids, and glassware
    - Gloves
    - Pipettes and tips
    - Regular paper, plastic, or glass
    - Gloves
    - Rubber and plastic protective clothing
8. If there is any question as to whether a waste is acceptable at the Larimer County Landfill and may be put in the dumpster or into the sewer disposal, please contact Hazardous Waste Manager at 491-6532 or EHSA at 491-6745.

## IV. Electronic Requests for Disposal (eRFDs)

Hazardous waste at CSU must be handled through EHS hazardous waste system once the generator has determined that it cannot be recycled and it is a hazardous waste. The electronic Request for Disposal was designed to improve the overall accuracy and turnaround of the hazardous waste disposal system.

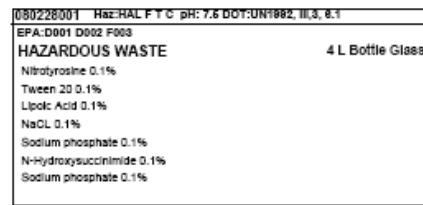
The generator must submit an online request: **Electronic Request for Disposal (eRFD)** before your waste can be picked up. For additional information on how to submit, an eRFD visit the following website and training video links.

**Web Location:** [www.ehs.colostate.edu/EHSLogin/](http://www.ehs.colostate.edu/EHSLogin/)

**Web Training video:** [www.ehs.colostate.edu/WHazWaste/Videos.aspx](http://www.ehs.colostate.edu/WHazWaste/Videos.aspx)

**The following information is required to complete an eRFD:**

1. Must have a Username and Password (provided by email after initial training)
2. Both PI and Waste Generator's training must be up-to-date
3. Must have a registered waste location
4. List of containers (type, size, physical state and pH)
5. Each container needs a list of chemicals including the percentage of each.
6. Complete chemical name of the waste (**No abbreviations or chemical formulas**)
  - a. Commercial product names can be used as long as they are in our database, if not further information will be required.
7. Print the online generated pickup container labels (right). In addition, you should ensure that you have web access with browsers 6.0 or greater if you are using Internet Explorer or if you are a Mac user that you are using either Firefox or Netscape. You should also make sure you are submitting your eRFD from a computer that you can open PDF files



### Preparing Waste for Pick up

Generally, EHS personnel will pick up waste every work day of the week. You will receive an email with the estimated time of pickup once you submit an eRFD. Before EHS will pick up, your waste you must go online and print the required eRFD labels for each individual container. (See Appendix D) You will be required to securely attach each eRFD label to the SIDE of each container. The waste must be packed in sturdy containers (e.g. cardboard boxes). However, five gallon and larger waste cans and carboys do not need to be placed in cardboard boxes. Containers must be in good condition and compatible with the chemical contents. EHS will not accept containers that are damaged or show evidence of leakage. Individual waste bottles or cans in the container must be packed with crumpled newspaper to prevent breakage and to protect them during transit. **Improperly labeled and/or packaged waste will not be picked up by EHS.**

## Other Important Information

Every chemical you add to your Electronic Request for Disposal will be checked against our chemical database. If the chemical is not found, you will be asked to check the spelling, whether the item is a non-hazardous descriptive term (i.e. Paper, Plastic, Glass see approved list A), whether the item is a trade name or mixture of different chemicals. If the item is a trade name or mixture of different compounds you will be required to list out all the ingredients. If none of the above, we ask you to supply as much information as possible such as the CAS number, company name, etc....

Once you create an eRFD you can come back to it until you are ready to submit it. Once you submit the eRFD to EHS, you will be unable to make changes. If changes are required on the eRFD please contact our office before your scheduled pickup day.

You will receive an email confirming your submission. (Please make sure the e-mail address you have on file with us is correct, otherwise we will be unable to notify you before we pickup your waste.)

You will be required to print off eRFD labels and place them on the SIDE of each container before EHS will pickup your waste. Make sure that the labels are securely attached to the SIDE of each container and are placed on the container it can be over the initial label or to the side of it.

eRFD Label must be put on side of each container before EHS can pick up your waste.

080228001	Haz: HAZ F T C pH: 7.6 DOT:UN1882, III, 3, 8.1
EPA-D001 D002 F003	
<b>HAZARDOUS WASTE</b>	
4 L Bottle Glass	
Nitrotyrosine 0.1%	
Tween 20 0.1%	
Lipidc Acid 0.1%	
NaCL 0.1%	
Sodium phosphate 0.1%	
N-Hydroxysuccinimide 0.1%	
Sodium phosphate 0.1%	

Initial label while collecting waste  
Always have your collection container labeled

<b>HAZARDOUS WASTE</b>	
Contents (include full chemical name(s) and vol.)	
Acetone 60% Methanol 20% Sodium chloride 5% Tetrahydrofuran 5% Water 10%	
Responsible Person's Name:	Start Date:
Some Generators Name	1/1/2008

List A
Non-Haz Descriptive
Bottle
Box
Cans
Contaminated
Dirt
Empty
Empty Bottle
Empty Can
Empty Jar
Gloves
Gloves, pipette tips, paper
Jars
Lab Trash
Metal
Non Hazardous
Other
Paper
Paper, Plastic
Paper, Plastic, Glass
Paper, Plastic, Glass, Metal
Plastic
Plastic, Glass

## V. Online Weekly Satellite Accumulation Area Inspections

As of January 2008, weekly satellite accumulation area inspections are required to be completed online. To complete your inspection online go to: [www.ehs.colostate.edu/WHazWaste/](http://www.ehs.colostate.edu/WHazWaste/)

Once you have finished your inspection we ask that you click on the “Print Placard” button next to your site and print and hang the placard in a visible location at your waste site. This will help us to identify waste sites during hazardous waste pick-ups.

### Instructions

<p><b>1</b> Log on to the Environmental Health Services Hazardous Waste Division’s Home page at <a href="http://www.ehs.colostate.edu/WHazWaste/">http://www.ehs.colostate.edu/WHazWaste/</a>. Click on “Online Weekly Inspection.”</p> <p>Login using your User Name and Password provided by EHS. (This is different than your University eid and password.)</p>	<p><b>Online Hazardous Waste Satellite Accumulation Weekly Inspection Please Login</b></p> <p>User Name <input type="text"/>  Password <input type="password"/>  <input type="button" value="Submit"/> <input type="button" value="Reset"/> <a href="#">Forgot Your Password?</a></p>																					
<p><b>2</b> You will then be shown a table that lists the waste sites under your principal investigator. If one of your waste sites is highlighted in yellow it means you need to perform a weekly inspection for that site. To do so click on the “Inspect Site” button. If none of your sites are highlighted yellow it means all of your sites are up to date and no inspection is needed.</p>	<p><b>Inspection Week #41 (From: Monday, October 08, 2007 to Sunday, October 14, 2007)</b></p> <p>List of Haz-waste Satellite Accumulation Areas Under your PI</p> <table border="1"><thead><tr><th>Hazardous Waste Site</th><th>Principal Investigator</th><th>Last Inspected</th><th>Status</th><th>Inspect Log Sheet</th></tr></thead><tbody><tr><td>Test Hazardous Waste Pavilion 0133</td><td>Borchert, Andy</td><td>N/A</td><td><b>Inspect Site</b></td><td>Inspection Required</td></tr></tbody></table>	Hazardous Waste Site	Principal Investigator	Last Inspected	Status	Inspect Log Sheet	Test Hazardous Waste Pavilion 0133	Borchert, Andy	N/A	<b>Inspect Site</b>	Inspection Required											
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<p><b>3</b> Once you have clicked “Inspect Site” you will be asked whether or not there is waste stored in your site. If there is no waste being stored in your area click the “No Waste in Storage” bullet. If you do not have any waste in storage no further inspections are needed. If there is waste being stored in your area you will need to check the “Have waste in storage?” bullet and proceed with the inspection.</p>	<p><b>Inspection for: Test Hazardous Waste Pavilion 0133 Inspection Week #41 (From: Monday, October 08, 2007 to Sunday, October 14, 2007)</b></p> <p><b>Please mark the most relevant bullet.</b></p> <p><input type="radio"/> No waste in storage? (Inspection Not Required.) <input type="radio"/> Have waste in storage? (Proceed with inspection.)</p>																					
<p><b>4</b> If there is waste stored in your facility you will need to complete the full weekly inspection. These are the same inspection items that were on our old paper inspection form. The primary difference between the two is the space where you can write corrective actions you may have taken to solve a problem. For example, if you checked that you did not segregate incompatible wastes your corrective action might be, “segregated incompatible wastes”.</p>	<p><b>Hazardous Waste Satellite Accumulation Weekly Inspection Sheet</b></p> <p>Inspection for Test Hazardous Waste Pavilion 0133 Inspection Week #41 (From: Monday, October 08, 2007 to Sunday, October 14, 2007)</p> <table border="1"><thead><tr><th>Inspection Item</th><th>Passed</th><th>Comments/Corrective Actions</th></tr></thead><tbody><tr><td>1. Area is secured (locked) when area is unattended by authorized employees?</td><td><input type="radio"/> Yes <input type="radio"/> No</td><td></td></tr><tr><td>2. Containers are compatible with the wastes stored in them.</td><td><input type="radio"/> Yes <input type="radio"/> No</td><td></td></tr><tr><td>3. Containers are in good condition (no excessive rusting, holes, severe dents, etc.).</td><td><input type="radio"/> Yes <input type="radio"/> No</td><td></td></tr><tr><td>4. Incompatible wastes are segregated.</td><td><input type="radio"/> Yes <input type="radio"/> No</td><td></td></tr><tr><td>5. Containers are kept closed when not adding or removing wastes (no funnels left in the spouts).</td><td><input type="radio"/> Yes <input type="radio"/> No</td><td></td></tr><tr><td>6. Containers are marked with the words "HAZARDOUS WASTE" or identification of the waste.</td><td><input type="radio"/> Yes <input type="radio"/> No</td><td></td></tr></tbody></table>	Inspection Item	Passed	Comments/Corrective Actions	1. Area is secured (locked) when area is unattended by authorized employees?	<input type="radio"/> Yes <input type="radio"/> No		2. Containers are compatible with the wastes stored in them.	<input type="radio"/> Yes <input type="radio"/> No		3. Containers are in good condition (no excessive rusting, holes, severe dents, etc.).	<input type="radio"/> Yes <input type="radio"/> No		4. Incompatible wastes are segregated.	<input type="radio"/> Yes <input type="radio"/> No		5. Containers are kept closed when not adding or removing wastes (no funnels left in the spouts).	<input type="radio"/> Yes <input type="radio"/> No		6. Containers are marked with the words "HAZARDOUS WASTE" or identification of the waste.	<input type="radio"/> Yes <input type="radio"/> No	
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<p><b>5</b> Once you have completed all the items listed on the inspection you will be shown the following screen.</p>	<p><b>Hazardous Waste Site Weekly Inspection Completed</b></p> <p>Thank you for completing your weekly inspection for waste site: Test Hazardous Waste Pavilion 0133</p> <p>Your weekly inspection record indicates that for Inspection Week #41 (From: Monday, October 08, 2007 to Sunday, October 14, 2007) is complete and up-to-date.</p> <p>Please come back next week to record your next week's inspection</p> <p><b>THANK YOU!</b></p>																					

6	After completing your inspection you may now exit our system, or if you wish, view your inspection history by clicking on the “View Log” button.	<p style="text-align: center;"><b>Inspection Week #41 (From: Monday, October 08, 2007 to Sunday, October 14, 2007)</b></p> <p style="text-align: center;">List of Haz-waste Satellite Accumulation Areas Under your PI</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #90EE90;">Hazardous Waste Site</th><th style="background-color: #90EE90;">Principal Investigator</th><th style="background-color: #90EE90;">Last Inspected</th><th style="background-color: #90EE90;">Status</th><th style="background-color: #90EE90;">Inspect Log Sheet</th></tr> </thead> <tbody> <tr> <td>Test Hazardous Waste Pavilion 0133</td><td>Borchert, Andy</td><td>10/10/2007</td><td>Up-to-date for week # 41</td><td><a href="#">View Log</a></td></tr> </tbody> </table>	Hazardous Waste Site	Principal Investigator	Last Inspected	Status	Inspect Log Sheet	Test Hazardous Waste Pavilion 0133	Borchert, Andy	10/10/2007	Up-to-date for week # 41	<a href="#">View Log</a>																																						
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7	After clicking on “View Log” you will be shown a screen that displays the history of your waste site. Items not highlighted indicate that you performed your weekly site inspection on time. Items highlighted in yellow indicate that a weekly site inspection was not performed and a notice of non-compliance was added to your P.I.’s log that week. Items highlighted in green indicate that your waste site was inactivated that week.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #90EE90;">Inspection Week Range</th><th style="background-color: #90EE90;">No waste in storage</th><th style="background-color: #90EE90;">Inspection not required</th><th style="background-color: #90EE90;">Area is secured (locked) when area is unattended by authorized employees.</th><th style="background-color: #90EE90;">Containers are compatible with the wastes stored in them.</th><th style="background-color: #90EE90;">Containers are in good condition (no excessive rusting, holes, severe dents, etc).</th><th style="background-color: #90EE90;">Incompatible wastes are segregated.</th><th style="background-color: #90EE90;">Containers are kept closed when not adding or removing wastes (no fumers left in the spouts).</th><th style="background-color: #90EE90;">Containers are marked with the words "Hazardous Waste" or identification of the waste.</th><th style="background-color: #90EE90;">Accumulation start date (date that waste is first put in the container) is identified on each container.</th><th style="background-color: #90EE90;">The chemical contents of each container are clearly listed on each container.</th><th style="background-color: #90EE90;">The name of the responsible container.</th><th style="background-color: #90EE90;">Inspector initials</th><th style="background-color: #90EE90;">Date of Inspection</th><th style="background-color: #90EE90;">Comments/Corrective Actions:</th><th style="background-color: #90EE90;">Click to View Details</th></tr> </thead> <tbody> <tr> <td>3/Sep/07 To 9/Sep/07</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>AWB</td><td>B/01</td><td>Waste Site Inactivated No Inspections</td><td><a href="#">View</a></td></tr> <tr> <td>24/Sep/07 To 30/Sep/07</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>AWB</td><td>N/A</td><td>Missed Inspection, Notice of Non-compliance issued to PI.</td><td><a href="#">View</a></td></tr> </tbody> </table>	Inspection Week Range	No waste in storage	Inspection not required	Area is secured (locked) when area is unattended by authorized employees.	Containers are compatible with the wastes stored in them.	Containers are in good condition (no excessive rusting, holes, severe dents, etc).	Incompatible wastes are segregated.	Containers are kept closed when not adding or removing wastes (no fumers left in the spouts).	Containers are marked with the words "Hazardous Waste" or identification of the waste.	Accumulation start date (date that waste is first put in the container) is identified on each container.	The chemical contents of each container are clearly listed on each container.	The name of the responsible container.	Inspector initials	Date of Inspection	Comments/Corrective Actions:	Click to View Details	3/Sep/07 To 9/Sep/07	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AWB	B/01	Waste Site Inactivated No Inspections	<a href="#">View</a>	24/Sep/07 To 30/Sep/07	<input type="checkbox"/>	AWB	N/A	Missed Inspection, Notice of Non-compliance issued to PI.	<a href="#">View</a>										
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8	By clicking on the “View” button by each inspection you will be able to view more details about that week’s inspection. For example the week highlighted in green would bring up a message that looked something like the following:	<p style="text-align: center;">Test Hazardous Waste Pavilion 0133 3/Sep/07 To 9/Sep/07 Principal Investigators Name: Borchert, Andy Inactivation Date: 01-Sep-2007</p> <p style="text-align: center; background-color: #D9C38D; color: black;"><b>Waste site was inactivated (by Borchert, Andy) and no hazardous waste inspection was conducted.</b></p>																																																
9	When a week is highlighted in yellow and you click “View Details” you will be shown a screen with the notice of non-compliance message your P.I. received for not completing an inspection that week. (Non-Compliance notifications are emailed and added to a P.I.’s permanent log when an inspection was not performed by Sunday night at 11:59 p.m. for a given week).	<h1 style="text-align: center; color: green;">Notice of Non-compliance</h1> <p style="text-align: center; color: blue;"><b>Date Issued: 30-Sep-2007</b></p> <p style="text-align: center; color: blue;"><b>Issued To: Borchert, Andy</b></p> <p style="text-align: center; background-color: #D9C38D; color: black;">Failure to comply with Weekly Inspection requirements for Hazardous Waste Satellite Accumulation Areas.</p>																																																
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1.	Area is secured (locked) when area is unattended by authorized employees.	<input checked="" type="radio"/> Yes <input type="radio"/> No	Door was unlocked! Fix!																																															
2.	Containers are compatible with the wastes stored in them.	<input checked="" type="radio"/> Yes <input type="radio"/> No	N/A.																																															
3.	Containers are in good condition (no excessive rusting, holes, severe dents, etc).	<input checked="" type="radio"/> Yes <input type="radio"/> No	N/A.																																															
4.	Incompatible wastes are segregated.	<input checked="" type="radio"/> Yes <input type="radio"/> No	N/A.																																															

### Non-Compliance with Weekly Satellite Accumulation Inspections

Inspections of all waste sites under a PI are required to be performed by Sunday night at 11:59 p.m. in a given week. If by Thursday 12:00 a.m. an inspection has not been completed you will receive a reminder e-mail to do so. If you do not perform, your weekly inspection by Sunday night at 11:59 p.m. a Notice of Non-Compliance will be sent to the lab’s PI. This notice will also be recorded in the PI’s permanent record log that is shown to the EPA during inspection time upon request. Non-compliance notifications cannot be removed from your permanent record.

If you will be out of town for a week and one of your trained generators will be unable to perform the inspection we ask that you inactivate your site for the period you will be absent (as long as no waste is present at the site).

If you have further questions please read, our full instructions for completing online satellite accumulation area inspections and view our training video online at  
<http://www.ehs.colostate.edu/WHazWaste/Videos.aspx>

## **VI. Emergency Response to Hazardous Waste Spills**

Each individual unit (department, laboratory, etc) must have an Emergency Response Plan, which includes the proper, site specific, response to a hazardous materials spill. It is the responsibility of each individual using hazardous material to become familiar with this plan. The following general rules should be followed in the event of a hazardous materials spill or other emergency.

**1. Activate Alarms if Necessary.**

Be familiar with the alarm system in your facility. If the incident could threaten the health of individuals in the building activate the alarm. If there is any doubt, activate the alarm.

**2. Treat Life-Threatening Injuries.**

The first priority in the event of an emergency is to protect life and health of individuals. Do not jeopardize your own safety.

**3. Evacuate Non-Essential Personnel and Prevent Access to The Area.**

Barricades of some sort should be set up to prevent inadvertent access to the area of the spill. This action may be necessary to prevent injury and to control the spread of contamination.

**4. Call the CSU Police (911) and if Necessary the Building Proctor or Department Head. (9-911 from VTH and Facilities)**

Get as much information as you can about the chemical. If possible, locate a Material Safety Data Sheet (MSDS). Be sure the CSU Police and the Poudre Fire Authority HazMat Team are accurately informed as to the nature and location of the spill.

**5. Contain the Spill if it can Be Done safely and Prevent Release to the Environment.**

If the spill can be safely contained, prevent release to the sanitary sewer system, the storm sewer and the ground.

**6. Initiate Material Specific Clean-Up Procedures.**

The Poudre Fire Authority Hazardous Materials Team will respond to the immediate emergency and stabilize the situation. However, spill cleanup and disposal of the residue is the responsibility of the individual or department. Check Material Safety Data Sheets (MSDS) for proper spill clean-up methods and safety precautions. MSDSes should be available in each laboratory for all chemicals that are utilized. EHS will assist with determining the appropriate procedures for cleanup and disposal.



~~sharris~~

They didn't tell me what to do with it!!  
I thought they told you what to do with it.

# VII. Appendix A

EPA Listed Hazardous Waste (40 CFR 261)

## Warning!!

The EPA Listed waste (F, P, and U list) is NOT an all-inclusive listing of hazardous waste! If your chemical is not on listed it does NOT mean your waste is Non-Hazardous!!

To determine if an unlisted waste item is or is not a hazardous waste you must determine the Hazardous characteristics (Ignitable, Corrosive, Reactive, and or Toxic pages 8-9) of the material.

If it does not meet any of the above it is not listed it does not meet any of the characteristics then it is probably not a hazardous waste. Please contact our office if you do not know!

EPA Haz-Waste Num	Hazardous Waste (F-List)	Hazardous Waste (F-List)
Generic: F001 .....	The following spent halogenated solvents used in degreasing: Tetrachloroethylene, methylene chloride, carbon tetrachloride, trichloroethylene, 1,1,1-trifluoroethane, chlorobenzene, 1,1,2-trifluoro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trifluoroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of Hexachlorophene from highly purified 2,4,5-trichlorophenol).
F002 .....	The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trifluoroethane, chlorobenzene, 1,1,2-trifluoro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trifluoroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	Process wastes, including but not limited to, distillation residues, heavy ends, bars, and reactor clean-out wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. (This listing does not include wastewater, wastewater treatment sludges, spent catalysts, and wastes listed in § 261.31 or § 261.32).
F003 .....	The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and nitrobenzene; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.
F004 .....	The following spent non-halogenated solvents: Cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	Wastes (except those that have not come into contact with process contaminant), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenoic formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with § 261.35 of this chapter or potentially cross-contaminated wastes that are otherwise currently regulated as hazardous wastes (i.e., F034 or F035), and where the generator does not resume or initiate use of chlorophenoic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027.
F005 .....	The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropipnone; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	Wastewaters (except those that have not come into contact with process contaminant), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use creosote preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.
F006 .....	Wastewater treatment sludges from electroplating operations, except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) deanning/striping associated with tin, zinc and aluminum plating bath solutions from electroplating operations .....	Wastewaters (except those that have not come into contact with process contaminant), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use Inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.
F007 .....	Plating bath residues from the bottom of plating baths from electroplating operations .....	Petroleum refinery primary effluent/solids a separation sludge-Any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries.
F008 .....	Spent cyanide plating bath solutions from electroplating operations .....	Such sludges include, but are not limited to, those generated in: oil/water/solids separators; tanks and impoundments; ditches and other conveyances; sumps; and stormwater units receiving dry weather flow. Sludge generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units, as defined in § 261.31(b)(2) (including sludges generated in one or more additional units after wastewater have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing.
F009 .....	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.	
F010 .....	Quenching bath residues from metal heat treating operations where cyanides are used in the process.	
F011 .....	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.	
F012 .....	Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process.	
F013 .....	Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process.	
F020 .....	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol).	
F021 .....	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives.	

Haz Waste No.	CAS Num	Substance (P-List)	CAS Num	Substance (P-List)	
P023	107-20-9	Acetaldehyde, chloro-	P038	632-42-2	Dithiylserine
P032	531-38-2	Acetamide, N-(aminohexenyl)-	P041	311-45-5	Diethyl-p-nitrophenyl phosphate
P057	640-18-7	Acetamide, 2-fluoro-	P040	287-87-2	O,O-Diethyl-O-pyrazinyl phosphonofluoride
P058	62-74-9	Acetic acid, fluoro-, sodium salt	P043	55-91-4	Diisopropylfluorophosphate (DIFP)
P002	531-08-2	1-Acetyl-2-thiourea	P004	368-00-2	1,4,5,8-Dimethanaphthalene, 1,2,3,4,10,10-hexahydro-
P003	107-02-9	Acrolein		(1alpha,4alpha,5alpha,8beta,8beta,8beta,8beta)-	1,4,5,8-Dimethanaphthalene, 1,2,3,4,10,10-hexahydro-
P070	116-06-3	Aldicarb sulfone.	P060	465-73-6	1,4,5,8-Dimethanaphthalene, 1,2,3,4,10,10-hexahydro-
P203	1646-08-4	Aldicarb		(1alpha,4alpha,4beta,5beta,8beta,8beta,8beta)-	1,4,5,8-Dimethanaphthalene, 1,2,3,4,10,10-hexahydro-
P004	308-00-2	Aldrin	P037	60-57-1	2,7,13-Dimethanona[2,3-b]oxane, 3,4,6,8,9-hexahydro-
P005	107-18-6	Allyl alcohol		(1alpha,2beta,2beta,3beta,7beta,7beta,7beta)-	7,7a-octahydro-
P006	20658-73-8	Aluminum phosphide (R,T)	P051	172-20-8	2,7,13,6-Dimethanona[2,3-b]oxane, 3,4,5,6,8,9-hexahydro-
P007	2763-96-4	S-(Aminomethyl)-3-lactazolol		(1alpha,2beta,2beta,3beta,6beta,7beta,7beta)-	7,7a-octahydro-
P008	504-24-5	4-Aminopyridine	P044	60-51-5	Dimethacate
P009	131-74-9	Aminocumyl phenoxide (R)	P046	122-08-8	alpha,alpha-Dimethylphenethylamine
P119	7803-55-8	Aminocumyl vanadate	P191	644-64-4	Dimenthan.
P088	506-61-6	Argentinate(1-[bis(cyano-C)-], potassium	P047	534-52-1	4,8-Dinitro- $\alpha$ -resol, & salts
P010	7778-38-4	Argentinic acid H <sub>3</sub> [aO <sub>4</sub> ]	P048	51-28-5	2,4-Dinitrophenol
P012	1327-53-3	Arsenic oxide As <sub>2</sub> O <sub>3</sub>	P020	69-95-7	Diroseb
P011	1303-28-2	Arsenic pentoxide	P085	152-16-9	Diphosphoramide, octamethyl-
P012	1327-53-3	Arsenic trioxide	P111	107-48-3	Diphosphoric acid, tetraethyl ester
P038	6892-42-2	Arginine, diethyl-	P038	288-04-4	Disulfoton
P036	6896-28-6	Argosonic dichloride, phenyl-	P049	541-53-7	Dithiobutene
P034	151-56-4	Arsenic oxide As <sub>2</sub> O <sub>5</sub>	P185	26418-73-8	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-[(methylamino)- carbonyloxy]-2-oxo-, methyl ester
P067	75-55-9	Aziridine, 2-methyl-	P050	115-28-7	Endosulfan
P013	542-62-1	Banlung cyanide	P088	145-73-3	Endothall
P024	106-47-9	Benzeneamine, 4-chloro-	P051	72-20-9	Endrin
P077	100-01-6	Benzeneamine, 4-nitro-	P051	72-20-9	Endrin, & metabolites
P028	100-44-7	Benzene, (chloromethyl)-	P042	51-43-4	Epinephrine
P042	51-43-4	1,2-Benzenediyl, 4-[1-butyro-2-(methylamino)ethyl]-, (R)-	P031	460-18-2	Ethanimidochloric acid, 2-(dimethylamino)oxy-, methyl ester
P046	122-08-9	1,2-Benzenediyl, 2-(methylamino)ethyl-	P194	23185-22-6	Ethanimidochloric acid, 2-(dimethylamino)oxy-, methyl ester
P014	108-39-5	Benzenebutanol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate,	P066	16752-77-3	Ethanimidochloric acid, 2-(dimethylamino)oxy-, methyl ester
P127	1563-66-2	7-Benzilic acid, 2-hydroxy-, compd. wth (3a:3s:ds)-1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrol[2,3-	P101	107-12-0	Ethylicyanide
P188	57-44-7	bifolol-5-yl methylcarbamate ester (1:1).	P054	151-56-4	Ethylenimine
P001	181-91-2	2-H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%	P097	52-45-7	Famphur
P028	100-44-7	Benzyl chloride	P056	23422-63-9	Fluoracetamide
P015	7440-41-7	Beryllium powder	P058	60-18-7	Fluoracetic acid, sodium salt
P017	588-31-2	Bromoacetone	P193	23422-63-9	Formefenate hydrochloride.
P018	357-57-3	Brucine	P197	17702-57-7	Formipanate.
P045	36186-18-4	2-Butanone, 3,3-dimethyl-1-(methylthio)-,	P065	628-96-4	Furilinic acid, mercury(2+) salt (R.T.)
P021	592-01-9	Calcium chloride	P058	7762-41-1	Heptachlor
P021	592-01-9	Calcium cyanide Ca(CN) <sub>2</sub>	P057	640-18-7	Heptachloro tetraphosphosphate
P189	55285-14-9	Ceramic acid, (ketobutyramin)- thiomethyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester.	P058	622-74-8	Hydroxamic acid
P181	644-64-4	Ceramic acid, dimethyl-, 1-[dimethyl-amino]carbonyl-5-methyl-1H-pyrazol-3-yl ester.	P193	78-18-6	Maganese, dimethylidithiocarbamate.
P182	113-39-0	Ceramic acid, dimethyl-, 3-methyl-1-(1-methylethyl)-1H-pyrazol-5-yl ester.	P068	60-34-4	Mercury fulminate (R.T.)
P190	1128-41-5	Ceramic acid, methyl-, 3-methylphenyl ester.	P063	67-80-9	Melanamine, N-methyl-N-nitroso-
P127	1563-66-2	Cerbotrunan.	P063	622-75-9	Methane, isocyanato-
P022	75-15-0	Carbon disulfide	P096	7843-51-2	Methyl, oxybifluoro-
P188	55285-14-9	Carbosulfan.	P060	465-73-6	Isolan.
P023	107-20-9	Chloroacetalddehyde	P192	118-38-0	Ison.
P024	106-47-9	P-Chlorophenyl	P007	15339-36-3	3-Isopropylphenyl N-methylcarbamate.
P026	5344-82-1	1-(o-Chlorophenyl)thiourea	P196	15339-36-3	Manganese, dimethylidithiocarbamate-S,S'-Y-
P027	5342-16-7	3-Chloropropionitrile	P092	62-38-4	Mercapto, facelato-C phenyl-
P028	5414-92-3	Copper cyanide	P065	628-96-4	Mercury fulminate (R.T.)
P029	5414-92-3	Copper cyanide Cu(CN)	P082	62-75-9	Melanamine, N-methyl-N-nitroso-
P202	64-00-6	m-Cumencyl methylcarbamate.	P064	624-43-9	Methane, oxybifluoro-
P030	.....	Cyanides (soluble cyanide salts), not otherwise specified	P016	542-09-1	5-Methoxy, tetranitro- (R)
P031	460-18-5	Cyanogen	P112	508-14-3	Methanimidamide, N,N-dimethyl-N-[2-(methylamino)-carbonyloxy]phenyl-, monochloride.
P033	506-77-4	Cyanogen chloride	P118	75-70-7	Methanimidamide, N,N-dimethyl-N-[2-(methylamino)-carbonyloxy]phenyl-, monochloride.
P033	506-77-4	Cyanogen chloride (CN)Cl	P193	23422-63-9	Methanimidamide, N,N-dimethyl-N-[2-(methylamino)-carbonyloxy]phenyl-, monochloride.
P034	131-08-3	2-Cyclohexyl-4,6-dinitrophenol	P197	17702-57-7	Methanimidamide, N,N-dimethyl-N-[2-(methylamino)-carbonyloxy]phenyl-, monochloride.
P034	542-99-1	Dichloromethyl ether	P050	115-28-7	6,9-Methano-2,4,3-benzodioxole-2-oxo-, 3-oxide
P036	6896-28-6	Dichlorophenylsulfone	P037	60-57-1	hexahydro-1,5,5a,6,9a-hexahydro-1,5a,5a,6-tetrahydro-

Haz Waste No.	CAS Num	Substance (P-List)	CAS Num	Substance (P-List)
P058	76-44-8	4,7-Methano-1H-Indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-Methiocarb. Methionyl.	P081 P017 P012 P003 P005 P067 P102 P008	55-63-0 58-31-2 107-18-7 107-02-8 107-18-6 75-55-8 107-18-7 2-Propen-1-ol 1,2-Propylenimine 2-Propylamine 4-Pyridinamine 504-24-5 154-11-5 57-47-6
P-198	2032-65-7	Frozenav alcohol	P075	Evidine, 3-(1-methyl-2-pyrrolidinyl)-, (S), & salts
P066	16752-77-5	2-Propen-1-ol	P204	Furo[2,3-b]indole(2,3-dihydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS)-).
P068	60-34-4	1,2-Propylenimine	P114	12038-52-0
P064	624-89-9	2-Aminohexanone	P103	Selenous acid, dilanthium(+)- salt
P068	75-86-6	Methyl isocyanate	P104	630-10-4
P071	288-00-0	2-Aminohexanone	P104	Silver cyanide
P190	1128-41-5	Methyl paraformaldehyde	P104	506-64-9
P128	315-0-4	Methyl carbonyl	P105	Silver cyanide Ag(CN)
P072	86-89-4	Nickel carbonyl	P106	Sodium azide
P073	13463-38-3	Nickel carbonyl Ni(CO)₄, (T-4)	P106	143-33-9
P073	13463-39-3	Nickel carbonyl Ni(CO)₄, (T-4)	P108	143-33-9
P074	557-18-7	Nickel cyanide	P108	157-24-9
P074	557-19-7	Nickel cyanide Ni(CN)₂	P108	367-57-3
P075	154-11-5	Nicotine, & salts	P108	157-24-9
P076	10102-43-9	Nitric oxide	P115	7446-18-6
P077	100-01-6	p-Nitroaniline	P108	3688-24-5
P078	10102-44-0	Nitrogen dioxide	P110	Tetraethylthiopyrophosphate
P078	10102-43-9	Nitrogen oxide NO	P110	Tetraethyl lead
P078	10102-44-0	Nitrogen oxide NO₂	P111	Tetraethyl pyrophosphate
P081	55-63-0	Nitroglycerine (R)	P112	Tetranitromethane (R)
P082	62-75-9	N-Nitrosodimethylamine	P062	Tetraphosphoric acid, hexaethyl ester
P084	4549-40-0	N-Nitrosomethylamine	P113	1314-32-5
P085	152-16-9	Octamethylpyrophosphoramide	P113	Thallium oxide Tl₂O₃
P085	20816-12-0	Osmium oxide OsO₄, (T-4)	P114	12038-52-0
P087	20816-12-0	Osmium tetroxide	P115	Thallium(I) sulfide
P088	145-73-3	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid	P115	7446-19-6
P184	23135-22-0	Oxamyl.	P108	3688-24-5
P089	56-39-2	Parathion	P045	Thienox
P034	131-89-5	Phenol, 2-cyanoethyl-4,6-dihydro-	P048	541-53-7
P048	1534-52-1	Phenol, 2,4-dinitro-	P048	108-80-5
P047	89-95-7	Phenol, 2-methyl-4,6-dihydro-, & salts	P116	78-18-6
P200	131-74-9	Phenol, 2-(1-methylpropyl)-4,6-dinitro-	P026	5344-92-1
P009	315-18-4	Phenol, 2,4,6-trinitro-, ammonium salt (R)	P072	86-89-4
P128	2032-65-7	Phenol, (3,5-dimethyl-4-(methoxy)-, methyl carbamate	P049	103-95-5
P198	64-00-6	Phenol, 3-(1-methyl-1-(1-methylalkyl))-, methyl carbamate.	P093	26418-73-8
P202	2631-37-0	Phenolmercury acetate	P185	Tirpane.
P082	62-39-4	Phenylthiourea	P203	8001-35-2
P083	103-85-5	Phosphate	P118	75-70-7
P084	288-02-2	Phosgene	P119	7903-55-6
P085	75-44-5	Phosphine	P200	1314-62-1
P086	7803-51-2	Phosphoric acid, diethyl 4-nitrophenyl ester	P200	1314-62-1
P041	3111-45-5	Phosphoric acid, O,O-diethyl-	P084	4548-40-0
P038	288-04-4	3-[2-(ethyl)butyl] ester	P001	1,8-91-2
P084	288-02-2	Phosphoric acid, O,O-diethyl-	P205	137-30-4
P044	60-51-5	S-[ethyl(methyl)] ester	P121	557-21-1
P043	55-91-4	Phosphoric acid, bis(1-methylbutyl) ester	P121	557-21-1
P088	56-30-8	Phosphoric acid, bis(4-nitrophenyl) ester	P122	1314-84-7
P040	287-87-2	Phosphoric acid, O,O-diethyl O-pyrazyl ester	P205	137-30-4
P087	52-85-7	Phosphoric acid, O,O-dimethyl O-dimethylphenyl ester		
P071	288-00-0	Phosphoric acid, O,O-dimethyl O-(4-nitrophenyl) ester		
P204	57-47-6	Physostigmine.		
P188	57-64-7	Physostigmine salicylate.		
P110	78-00-2	Plumbane, 1,4-bis(1,2,2,6,6-penta-		
P088	151-50-9	potassium cyanide K(CN)		
P088	506-61-6	Potassium silver cyanide		
P201	2631-37-0	Proterebat		
P070	116-06-3	Propanal, 2-methyl-2-(methylidene)-		
P203	1646-88-4	O-[[(methylamino)carbonyl]oxime]		
P101	107-12-0	Propanal, 2-methyl-2-(methylidene)-		
P027	542-76-7	Propanenitrile		
P068	75-96-5	Propanenitrile, 2-hydroxy-2-methyl-		

<sup>1</sup>CAS Number given for parent compound only.

Haz Waste No.	CAS Num	Substance (U-List)	CAS Num	Substance (U-List)	CAS Num	Substance (U-List)
Haz Waste No.	CAS Num	Substance (U-List)	Haz Waste No.	Substance (U-List)	Haz Waste No.	Substance (U-List)
U394	34859-43-1	A2213	U060	T2-54-8	U033	Carbonic difluoride
U001	75-07-0	Acetaldehyde (I)	U017	88-87-3	U156	Carbonic(hydroic acid, methyl ester) (I,T)
U034	75-07-0	Acetaldehyde, trichloro-	U223	26471-62-5	U033	Carbon oxyfluoride (R,T)
U187	62-44-2	Acetamide, N-(4-chlorophenyl)-	U238	1330-20-7	U211	Carbon tetrafluoride
U005	53-86-3	Acetamide, N-(3H-diluor-2-yl)-	U201	108-46-3	U034	Chloral
U240	184-75-7	Acetic acid, (2,4-dichlorophenoxy)-, salts & esters	U127	118-74-1	U035	Chlorambucil
U112	141-78-6	Acetic acid, cold ethyl ester (I)	U056	110-82-7	U036	Chlordane, alpha & gamma isomers
U144	301-04-2	Acetic acid, lead(IV) salt	U220	108-88-3	U026	Chloraphazin
U214	563-69-9	Acetic acid, thallium(1+) salt	U105	121-14-2	U026	Chlorobenzene
F027	93-76-5	Acetic acid, (2,4,5-trichlorophenoxy)-	U106	606-20-2	U037	Chlorobenzilate
	67-64-1	Acetone (I)	U055	88-82-8	U038	5-(1-methyl-1,2-difluoro-
	75-05-3	Acetophenone	U169	68-85-3	U039	p-Chloro-anisole
	89-06-2		U183	608-83-3	U042	2-Chloroethyl vinyl ether
	53-98-3	2-Acetylaminofluorene	U185	82-69-9	U042	Chlorotrom
	75-36-3	Acetyl chloride (C,R,T)	U020	88-08-9	U046	Chlorotromethyl methyl ether
	75-06-3	Acrylamide	U207	98-08-9	U047	beta-Chloronaphthalene
	78-10-1	Acrylic acid (I)	U061	95-84-3	U048	o-Chlorophenol
	107-13-1	Acrylic nitrite	U247	72-43-5	U048	4-Chloro-o-tolidine, hydrochloride
U111	61-92-5	Amide	U023	88-07-7	U032	Chloric acid H <sub>2</sub> ClO <sub>4</sub> , calcium salt
U012	62-53-3	Aniline (I,T)	U234	88-35-4	U032	Chrysene
U135	75-60-5	Arisinic acid, dimethyl-	U021	82-87-5	U051	Cresote
U014	482-90-8	Auramine	U202	181-07-2	U052	Cresyl(cyclic acid)
U015	115-02-8		U278	22781-23-3	U052	Crononidine
U010	50-07-7	Azirinol[2',3'-3,4]pyrrolol[1,2-a]indole-4,7-dione, 6-amino-	U364	22861-82-6	U055	Cumene (I)
U280		hexahydro-3a-methoxy-5-methyl-, [1a3-[1a]alpha, epsilon-	U203	94-58-7	U046	Cyanogen bromide (CN)Br
	101-27-9	Barban	U144	120-59-1	U046	2-Cyclohexadiene-1,4-dione
	22781-23-3	Bendiocarb	U367	1563-38-8	U056	2-Cyclohexane (I)
	22861-82-6	Bendiocarb phenol	U064	94-59-6	U057	Cyclohexanone (I)
	17804-35-2	Benomyl	U248	188-55-9	U057	1,2,3,4,5-hexachloro-
	56-48-5	Benz[[ace]anthryl]ene, 1,2-dihydro-3-methyl-	U022	50-32-8	U057	1,2,3,4,5-pentaene
	225-51-4	Benz[[c]chloride	U197	106-51-4	U061	1,2,3,4,5-hexachloro-
	U017	Benzyl chloride	U023	88-07-7	U062	DDT
	2369-50-5	Benzamide, 3,5-dichloro-N-(1-dimethyl-2-propynyl)-	U085	1464-53-5	U062	Dialkate
	56-55-3	Benzalacetone	U025	92-87-5	U063	Dibenzof[a,h]anthracene
U018	57-97-6	Benz[a]anthracene, 7,12-dimethyl-	U012	62-53-3	U064	Dibenzof[a,i]pyrene
U094	112-12-2	Benzeneamine, (I,T)	U014	492-90-9	U066	1,2-Dibromo-3-chloropropane
U093	492-90-9	Benzeneamine, 4,4'-earbonimidoyl bis[N,N-dimethyl-	U073	91-84-1	U068	1,2-Dibromo-3,3-dimethoxy-
	60-11-7	Benzeneamine, N,N-dimethyl-4-(phenylazo)-	U091	118-40-4	U070	1,2-Dibromo-3,3-dimethoxy-
	55-53-4	Benzeneamine, 2-methyl-	U095	118-93-7	U070	1,2-Dibromo-3,3-dimethoxy-
	106-48-5	Benzeneamine, 4-methyl-	U225	75-25-2	U071	Bromofuran
	156-14-9	Benzeneamine, 4,4'-methylenediphenyl phenyl ether	U030	101-55-3	U072	m-Dichlorobenzene
	156-21-5	Benzeneamine, 2-methyl-, hydrochloride	U128	87-68-3	U073	3,3'-Dichlorobenzidine
	88-97-3	Benzeneamine, 2-methyl-N-nitro-	U172	924-16-3	U073	1,4-Dichloro-2-butene (I,T)
	71-43-2	Benzene (I,T)	U031	71-36-3	U074	1,4-Dichloro-2-butene
	510-15-6	Benzene-acetic acid, 4-chloro-alpha-(4-chlorophenoxy)-	U159	78-63-3	U075	Dichlorodifluoromethane
	101-55-3	Benzene, 1-bromo-4-phenoxy-	U160	1348-23-4	U076	1,2-Dichloroethylene
U035	305-03-3	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-	U053	4170-30-3	U076	1,2-Dichloroethylene
	108-80-7	Benzene, chloro-	U074	764-41-0	U077	Dichlorosacropyl ether
	25376-45-9	Benzenedimine, 2-methyl-,	U143	303-34-4	U027	Dichlorotoluene
	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	U031	71-36-3	U024	Dichloromethoxymethane
	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester	U136	13765-18-0	U024	Dichlorophenol
	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester	U032	10605-21-7	U082	1,2-Dichloropropene
	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester	U372	1784-36-2	U084	1,2,3,4-Diepoxybutane (I,T)
	72-54-3	Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro-	U271	101-27-9	U085	Diethyl glycol, dicarbamate.
	25376-45-9	Benzenedimine, ar-methyl-	U280	51-78-6	U086	1,2-Diethylhydrazine
	117-91-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	U238	615-53-2	U087	O,O-Diethyl S-methyl dithiophosphate
U070	541-73-1	Benzene, 1,3-dichloro-	U178	111-54-6	U087	Diethyl phthalate
U069	84-74-2	Benzene, 1,4-dichloro-	U373	122-42-9	U088	Diethylsuccinate
U098	106-46-7	Benzene, 1,4-dichloro-	U043	23584-05-8	U088	Diethylbenzidine
U030	101-55-3	Benzene, 1-bromo-4-phenoxy-	U037	78-44-7	U089	Diethylbenzylbenzidine
U037	108-80-7	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-	U388	2303-17-5	U089	Dihydronaphthalene
	117-91-7	Benzene, chloro-	U087	52488-80-9	U091	3,3'-Dimethoxybenzidine
	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester	U114	111-54-6	U091	Dimethylaminobenzene (I)
	84-66-2	1,2-Benzenedicarboxylic acid, 1,2-ethanedibutyl-	U062	2303-16-4	U092	1,2-Dimethylaminobenzene
	131-11-3	Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro-	U279	63-25-2	U092	1,2-Dimethylbenzidine
	117-94-0	Benzene, chloro-	U372	10605-21-7	U093	3,3'-Dimethylbenzidine
	85-50-1	Benzene, 1,2-dichloro-	U067	1563-38-3	U093	80-(1-methylbenzyl)hydroperoxide (R)
	541-73-1	Benzene, 1,3-dichloro-	U215	6333-73-3	U097	Dimethylbenzimidazole
	106-46-7	Benzene, 1,4-dichloro-				Carboxanil phenol.
						Carboxanil, diethallium(1+) salt

Haz Waste No.	CAS Num	Substance (U-List)	CAS Num	Substance (U-List)	CAS Num	Substance (U-List)		
Haz Waste No.	CAS Num	Substance (U-List)	Haz Waste No.	Substance (U-List)	Haz Waste No.	Substance (U-List)		
U098	57-14-7	1,1-Dimethylhydrazine	U128	87-68-3	Hexachlorobutadiene	U164	56-04-2	Methylisocuracil
U099	546-73-9	1,2-Dimethylhydrazine	U130	77-47-4	Hexachlorocyclopentadiene	U010	50-07-7	Mitomycin C
U101	105-67-7	2,4-Dimethylhydrazine	U131	67-72-1	Hexachloroethane	U059	208-02-3	5,12-Naphthalenedione, 8-acetyl-10-[3-anilino-2,3,6-trid-
U102	131-11-3	Dimethyl phthalate	U132	70-30-4	Heptachloropropene	U167	134-32-7	1-Naphthalenamine
U103	77-78-1	Dimethyl sulfide	U243	1888-71-7	Heptachloropropene	U168	91-55-8	2-Naphthalenamine, N,N'-bis(2-chloroethyl)-
U105	121-14-2	2,4-Dinitrotoluene	U133	302-01-2	Hydrazine (R,T)	U265	484-03-1	Naphthalenamine, N,N'-bis(2-chloro-
U106	606-20-2	2,6-Dinitrotoluene	U086	1615-80-1	Hydrazine, 1,1-dimethyl-	U165	91-20-3	Naphthalene, 2-ohxo-
U107	117-04-0	Di-n-octyl phthalate	U088	57-14-7	Hydrazine, 1,1-dimethyl-	U047	91-55-7	1,4-Naphthalenedione
U108	123-81-1	1,4-Dioxane	U098	540-73-8	Hydrazine, 1,2-dimethyl-	U166	130-15-4	2,7-Naphthalenediulfonic acid, 3,3'-{[3-(3-
U109	122-06-7	1,2-Dihydroxyhydrazine	U109	122-46-7	Hydrazine, 1,2-diphenyl-	U238	72-55-1	1-Naphthalenol, methylcarbanate,
U110	142-84-7	Dipropylamine (I)	U134	7664-39-3	Hydrofluoric acid (C,T)	U279	63-25-2	1,4-Naphthoquinone
U111	621-64-7	Di-n-propylnitrosamine	U134	7684-38-3	Hydrogen fluoride (C,T)	U166	130-15-4	alpha-Naphthylamine
U101	106-38-3	Epiclorohydrin	U135	7783-06-4	Hydrogen sulfide H <sub>2</sub> S	U167	91-55-8	beta-Naphthylamine
U001	75-07-0	Ethanol (I)	U135	7783-06-4	Hydrogen sulfide H <sub>2</sub> S	U168	91-55-8	Nitr, acid, Thallium(1+) salt
U404	121-14-8	Ethanamine, N,N-diethyl-	U096	80-15-9	Hydroperoxide, 1-nitro-1-phenylethyl- (R)	U217	10102-45-1	Nitr, acid, Thallium(1+) salt
U174	55-18-3	Ethanamine, N,N-diethyl-N-nitroso-	U116	86-45-7	Indenol[1,2-c]pyrene	U169	98-85-3	Nitrobenzene (I)
U155	91-90-5	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridyl	U137	183-39-5	Indenol[1,2-c]pyrene	U170	100-02-7	9-Nitrochloro (I,T)
U067	106-83-4	Ethane, 1,2-dibromo-	U190	88-44-9	1,3-isobenzofuranolone	U171	75-45-8	2-Nitropropane (I,T)
U075	75-34-3	Ethane, 1,1-dichloro-	U140	78-83-1	Isobutyl alcohol (I,T)	U172	924-16-3	N-Nitrosodiethanolamine
U077	107-06-2	Ethane, 1,2-dichloro-	U141	120-58-1	Isosorbide	U173	1116-54-7	N-Nitrosodiethanolamine
U131	67-72-1	Ethane, hexachloro-	U142	143-50-0	Kapone	U174	55-18-5	N-Nitrosodiethanolamine
U024	111-81-1	Ethene, 1,1'-(neitylenelenobis(oxy))bis[2-chloro-	U143	303-34-4	Lascarniline	U176	75-73-9	5-Nitro-N-ethylurea
U117	60-28-7	Ethene, 1,1'-oxybis(I)	U144	301-04-2	Lead acetato-O-tetrahydroxyl-	U177	684-83-5	5-Nitro-N-methylurea
U025	111-44-4	Ethene, 1,1-dichloro-	U146	1335-32-6	Lead acetato-O-tetrahydroxyl-	U178	615-53-2	N-Nitrosodimethylurethane
U184	76-01-7	Ethane, pentachloro-	U145	7446-27-7	Lead phosphate	U179	100-75-2	N-Nitrosoacryldine
U208	630-20-6	Ethane, 1,1,2-trifluoro-	U146	1335-32-6	Lead subacetate	U180	830-55-2	N-Nitrosoacryldine
U209	78-34-5	Ethane, 1,1,2,2-tetrachloro-	U129	58-89-9	Lindane	U181	98-55-8	5-Nitro-o-xulidine
U218	62-55-5	Ethanethioamide	U163	70-25-7	MNNNG	U182	1120-71-4	1,2-Oxathiolane, 2,2-dioxide
U225	71-35-5	Ethane, 1,1,1-trifluoro-	U144	108-31-6	Malic anhydride	U058	50-18-0	2H-1,3,2-Oxazacharotriphosphorane,
U227	78-00-5	Ethane, 1,1,2-trifluoro-	U148	123-33-1	Malic hydrazide	U115	75-21-8	Oxiane (I,T)
U410	58868-26-0	Ethanimidochloric acid, N,N'-[thiobis[[methylir	U149	108-77-3	Malononitrile	U126	765-34-4	Oxanes carboxylaldehyde
U394	38550-43-1	Ethanimidochloric acid, 2-(dimethylamino)-N-h	U150	148-82-3	Melphanal	U041	106-85-8	Oxane, (chloromethyl)-
U359	110-90-5	Ethane, hexachloro-	U129	7439-97-6	Mercury	U183	628-93-5	Pentachlorobenzene
U173	1116-54-7	Ethanethioamide	U152	122-38-7	Mennacylontriile (I,T)	U184	76-01-7	Pentachloroethane
U395	5852-26-1	Ethanol, 2,2'-oxybis-	U092	124-40-3	Menthamine, N-methyl- (I)	U185	82-68-8	Pentachlorophenol
U004	98-96-2	Ethanol, 2,2'-oxybis-, dicarbamate.	U029	74-83-9	Menthane, bromo-	See	87-86-5	Pentachlorophenol
U043	75-01-4	Ethene, chloro-	U045	74-87-3	Menthane, chloro-	F027		Pentachlorophenol
U042	110-75-9	Ethene, chloro-	U151	7439-97-6	Menthane, chloro-	U161	108-10-1	Pentanol, 4-methyl-
U078	75-35-5	Ethene, 2-ethyleneoxy-	U152	122-38-7	Menthamine, N-methyl- (I)	U186	524-60-9	5-Aza-6-oxo-5-
U079	156-60-5	Ethene, 2,2'-oxybis-	U092	124-40-3	Menthamine, N-methyl- (I)	U187	62-44-2	Phenothiazine
U210	127-18-4	Ethene, 1,2-dichloro-	U075	75-71-8	Methane, dichloro-	U188	108-86-2	Phenol
U228	78-01-3	Ethene, trichloro-	U138	74-88-4	Methane, dichlorofluoro-	U048	95-57-8	Phenol, 2-chloro-
U112	141-78-6	Ethene, trichloro-	U119	62-50-0	Methanesulfonic acid, ethyl ester	U039	59-50-7	Phenol, 4-chloro-3-methyl-
U113	140-98-5	Ethyl acrylate (I)	U211	56-23-5	Methane, tetrachloro-	U081	120-82-2	Phenol, 4-dichloro-
U238	51-73-6	Ethyl carbamate (urethane)	U068	74-85-3	Methane, dibromochloro-	U082	87-65-0	Phenol, 2,6-dichloro-
U117	60-28-7	Ethyl ether (I)	U080	75-08-2	Methane, dichloro-	U083	56-53-1	Phenol, 4-(4-phenyl)-
U114	1111-54-6	Ethylenbis(2-hydroxyethylcarbamic acid, salts & ester	U075	75-25-2	Methane, iodobromo-	U101	105-67-9	Phenol, 4-(4-phenyl)-
U067	106-93-4	Ethylenedibromide	U044	67-66-3	Methane, trichlorofluoro-	U052	1318-77-3	Phenol, 2-(2-methylenesulfonylsulfonyl)-3,4,6-trichloro-
U077	107-06-2	Ethyl methanesulfonate	U121	57-74-9	Methane, trichlorofluoro-	U132	70-30-4	Phenol, 2-(1-methylethoxy)-, methylcarbamate.
U359	110-00-3	Ethyleneglycol monooethyl ether	U154	67-56-1	Methanol (I)	U411	114-26-1	Phenol, 2-(1-methylethoxy)-, methylcarbamate.
U115	75-21-9	Ethylenoxide (I,T)	U155	91-80-5	Methylbenzene	U170	100-02-9	Phenol, 4-nitro-
U116	96-45-7	Ethylenethiourea	U142	143-50-0	Methyl chloride (I,T)	U171	148-82-3	L-Phenylalanine, 4-[4-(2-chloroethyl)amino]-
U076	75-34-3	Ethylenbis(2-hydroxyethylcarbamic acid, salts & ester	U247	72-43-5	Methyl chloroform	U172	7446-27-7	Phosphoric acid, lead(2+)-salt (2:3)
U118	97-63-2	Ethylenedibromide	U154	67-66-1	Methyl iodide	U087	3288-54-2	Phosphonothioic acid, O,O-dimethyl S-methyl ester
U067	101-14-1	Ethylenedichloride	U036	57-74-9	Methyl isobutyl ketone (I)	U111	107-10-8	1-Propanamine (I,T)
U120	206-44-0	Fluoranthene	U158	74-87-3	Methyl bis(2-chloroethyl)aminocarbonyl	U112	621-64-7	1-Propanamine, N-nitroso-N-propyl-
U122	90-00-9	Formaldehyde	U168	50-04-0	Methyl bis(2-chloroethyl)aminocarbonyl	U190	142-84-7	1-Propanamine, N-nitroso-N-propyl-
U123	64-18-9	Formic acid (C,T)	U080	75-08-2	Methylene chloride	U191	108-08-8	2-Phenol
U124	110-00-9	Furan (I)	U156	78-22-1	Methyl chloroformate (MEK) (I,T)	U173	100-74-4	Piperidine, 1-nitro-
U125	98-01-1	2-Furandecarboxaldehyde (I)	U226	71-55-6	Methyl chloroformate (I,T)	U192	23850-54-5	Pronamide
U147	108-31-1	2,5-Furandione	U157	55-48-6	3-Methylindanthrene	U194	107-10-8	Propanamine, N-nitroso-N-propyl-
U119	62-50-0	Fluoranthene	U029	74-88-9	4,4'-Methylenebis(2-chloroaniline)	U111	141-90-3	Propanamine, N-nitroso-N-propyl-
U120	206-44-0	Fluoranthene	U158	74-87-3	Methyl bis(2-chloroethyl)aminocarbonyl	U190	142-84-7	Propanamine, N-nitroso-N-propyl-
U121	108-98-9	Furfural (I)	U068	75-08-2	Methylene chloride	U191	100-74-4	Propanamine, N-nitroso-N-propyl-
U122	98-01-1	Furfural (I)	U159	78-89-3	Methyl ethyl ketone (MEK) (I,T)	U173	100-74-4	Propanamine, N-nitroso-N-propyl-
U124	110-00-9	Glucozymane	U160	1338-23-4	Methyl ethyl ketone peroxide (R,T)	U149	108-77-3	Propanedinitrile
U125	98-01-1	D-Glucose, 2-deoxy-2-(3-methyl-3-nitroso-	U138	74-88-4	Methyl iodide	U171	78-46-9	Propane, 2-nitro- (I,T)
U147	108-31-1	Glycidylaldehyde	U161	109-10-1	Methyl isobutyl ketone (I)	U027	108-60-1	Propane, 2,2'-oxybis[2-chloro-
U120	206-44-0	Guanylurea	U162	90-62-6	Methyl methacrylate (I,T)	U193	1120-74-1	1,3-Propane sulfone
U122	98-01-1	Guanylurea	U161	108-10-1	4-Methyl-2-pentanone (I)	U235	126-72-7	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U123	110-74-1	Guanylurea						

Haz Waste No.	CAS Num	Substance (U-List)	CAS Num	Substance (U-List)
U140	79-83-1	1-Propanol, 2-methyl- (I,T)	U237	66-75-1 Ursel mustard
U002	67-64-1	2-Propanone (I)	U176	750-73-9 Urea, N-ethyl-N-nitroso-
U007	78-06-1	2-Propanamine (I)	684-83-5 Urea, N-methyl-N-nitroso-	
U084	542-75-9	1-Propene, 1,3-dichloro-	1043 Vinyl chloride	75-01-4
U243	1888-71-7	1-Propene, 1,1,2,3,3,4-hexachloro-	U248 181-81-2	Wurmann, & assa, when present at concentrations on 0.3% or less
U009	107-13-1	2-Propanenitrile	U239 1330-20-2	Xylene (I)
U152	126-98-7	2-Propanenitrile, 2-methyl- (I,T)	U200 50-55-5	Yohimbane, 16-carboxylic acid, 11,17-dimethoxy-18-[{3(4,5-trimethoxybenzoyl)oxy}]-
U008	78-10-7	2-Propanenoic acid (I)	U249 1314-84-7	(3beta,15beta,17alpha,18beta,20alpha)-Zinc phosphide ZnP <sub>2</sub> , when present at concentrations of 10% or less
U113	140-99-5	2-Propanenoic acid, ethyl ester (I)		
U118	97-63-2	2-Propanenoic acid, 2-methyl-, ethyl ester		
U162	80-62-6	2-Propanenoic acid, 2-methyl-, methyl ester (I,T)		
U373	122-42-9	Propham.		
U411	114-26-1	Propoxur.		
U387	52688-90-9	Propulfoscarb.		
U194	107-10-9	n-Propylamine (I,T)		
U083	78-87-3	Propylene dicloride		
U148	123-33-1	3,6-Pyridazine-dione, 1,2-dihydro-		
U196	110-96-1	Pyridine		
U191	108-06-9	Pyridine, 2-methyl-		
U237	66-75-1	2,4-(1H,3H)-Pyrimidinedione, 2,3-dihydro-6-methyl-2-trifluoro-		
U164	56-04-2	4(1H)-Pyrimidinone, 2,3-dihydro-		
U180	830-55-2	Pyridoline, 1-miloso-	D004 Arsenic	7440-39-2 5.0
U200	50-55-5	Pyridoline, 1-miloso-	D005 Barium	7440-38-3 100.0
U201	108-46-3	Reserpine	D018 Benzene	71-43-2 0.5
U202	181-07-2	Saccharin, & salts	D006 Cadmium	7440-43-9 1.0
U203	94-58-7	Saitole	D019 Carbon tetrachloride	56-23-3 0.5
U204	7783-00-9	Selenium dioxide	D020 Chlordane	57-74-9 0.03
U204	7480-56-4	Selenium sulfide	D021 Chlorobenzene	108-80-7 100.0
U205	7489-56-4	Selenium sulfide SeS <sub>2</sub> (R,T)	D022 Chloroform	67-66-3 6.0
U015	115-02-6	L-Serine, diazoacetate (ester)	D007 Chromium	7440-47-3 5.0
U206	18883-86-4	Streptozotocin	D023 o-Cresol	95-48-7 4,200.0
U103	77-79-1	Sulfuric acid, dimethyl ester	D024 m-Cresol	108-38-4 4,200.0
U189	1314-80-3	Sulfur phosphide (R)	D025 p-Cresol	106-44-3 4,200.0
U207	86-84-3	1,2,4,5-Tetrachlorobenzene	D026 Cresol	...
U208	630-20-6	1,1,1,2-Tetrachloroethane	D016 2,4-D	94-75-7 10.0
U209	78-34-3	1,1,2,2-Tetrachloroethane	D027 1,4-Dichlorobenzene	106-46-7 7.5
U210	127-18-4	Tetrachloroethylene	D028 1,2-Dichloroethane	107-86-2 0.5
See	59-80-2	2,3,4,6-Tetraclorocibenol	D029 1,4-Dichloroethylene	121-14-2 0.13
F027	108-88-9	Tetrahydrofuran (I)	D030 2,4-Dinitrotoluene	75-25-4 0.02
U213	563-58-3	Thallium(I) acetate	D031 Endrin (and its ep-	72-20-8 0.008
U214	6333-73-9	Thallium(I) carbonate	oxide).	76-44-9
U215	7791-12-0	Thallium(I) chloride	D032 Hexachlorobutadiene	>0.13
U216	7781-12-0	Thallium(I) chloride TlCl	D033 Hexachloroethane	87-68-3 0.5
U217	10102-45-1	Thallium(I) nitrate	D034 Hexachloroethane	67-72-1 3.0
U218	62-55-5	Thiocetamide	D008 Lead	7438-92-1 5.0
U410	56868-26-0	Thiodicarb.	D013 Lindane	58-98-9 0.4
U153	74-93-1	Toluene	D009 Mercury	7438-97-6 0.2
U244	137-36-8	Thiopercyanato diamide [(H <sub>5</sub> N)(C(S)] <sub>2</sub> S <sub>2</sub> ,	D014 Methoxychlor	72-43-5 10.0
U409	23564-05-9	Thiophenol-methyl.	D035 Methyl ethyl ketone	78-93-3 200.0
U219	62-56-6	Thioureas	D036 Nitrobenzene	89-85-3 2.0
U244	137-26-8	Thiram	D037 Pentachlorophenol	87-96-5 100.0
U220	109-99-3	Toluene	D038 Pyridine	110-96-1 >5.0
U221	25376-45-8	Toluenediamine	D010 Selenium	7792-48-2 1.0
U223	26471-02-5	Toluene diisocyanate (R,T)	D011 Silver	7440-22-4 5.0
U328	95-53-4	O-Tolidine	D039 Tetrachloroethylene	127-18-4 0.7
U353	106-48-4	p-Tolidine	D015 Tospaphene	8001-35-2 0.5
U222	636-21-5	p-Tolidine hydrochloride	D040 Trichloroethylene	78-01-6 0.3
U389	2303-17-5	Triale-	D041 2,4,5-Trichlorophenol	85-85-4 400.0
U011	61-92-5	1H-1,2,4-Triazol-3-smine	D042 2,4,6-Trichlorophenol	89-06-2 2.0
U227	78-00-5	1,1,2-Trihaloethane	D017 2,4,5-TP (Silver)	93-72-1 1.0
U228	78-01-5	Trihalomonomochloromethane	D043 Vinyl chloride	75-01-4 0.2
U121	75-68-4	Triethylamine.		
U404	121-44-3	Triethylaminium.		
U234	88-35-4	1,3,5-Triisopropylbenzene (R,T)		
U182	123-63-7	1,3,5-Triisopropylbenzene (R,T)		
U235	126-72-7	Triisopropylbenzene, 2,4,6-trimethyl-		
U236	72-57-1	Triisopropylbenzene, 2,4,6-trimethyl-		
		Triisopropylbenzene, 2,4,6-trimethyl-		
		Trypan blue		

# VII. Appendix B

## Chemical Information Guide Non-Compatible Chemicals<sup>\*</sup>

### Do not contact or store...

<u>Aliphatic acids</u>	with...
<u>Acetylene</u>	Oxidizers Chlorine, bromine, copper, fluorine, silver & mercury.
<u>Alcohols</u>	Nitric acid, sulfuric acid, caustics, aliphatic amines, isocyanates.
<u>Aldehydes</u>	Sulfuric acid, strong oxidizers, caustics (sodium hydroxide).
<u>Alkali metals</u>	Water, carbon dioxide & halogenated hydrocarbons
<u>Amides</u>	Strong oxidizers.
<u>Amines</u>	Inorganic acids, organic acid halides, aldehydes, isocyanates, organic anhydrides.
<u>Ammonia, anhydrous</u>	Silver nitrate, iodine, sulfuric acid, nitric acid, organic acids, mercury, halogens, calcium hypochlorite, hydrofluoric acid, amides, organic anhydrides, Isocyanate, vinyl acetates, epichlorohydrin, aldehydes.
<u>Ammonium hydroxide</u>	See ammonia.
<u>Ammonium nitrate</u>	Acids, metal powders, flammable liquids, sulfur and finely divided organics or other combustibles, easily oxidized compounds.
<u>Benzene</u>	Chlorine, bromine, chromic anhydride, oxygen, ozone, perchlorates, permanganates, sulfuric acid, potassium peroxide, sodium peroxide. Carcinogen.
<u>Caustics</u>	All acids, organic anhydrides, isocyanates, alkylene oxides, epichlorohydrin, aldehydes.
<u>Carbon activated</u>	Calcium hypochlorite and all oxidizing agents.
<u>Chlorates</u>	Ammonium salts, acids, metal powders, sulfur, finely divided organic or combustible materials.
<u>Chlorine dioxide</u>	Ammonia, methane, phosphine, hydrogen sulfide.
<u>Chromic acid</u>	Flammable liquids, acetic acid, naphthalene, camphor, glycerine, turpentine, alcohols.
<u>Clorox (hypochlorite)</u>	Ammonia, cleansers that do not contain chlorine (i.e. Bon-ami), cyanides.
<u>Copper</u>	Acetylene, hydrogen peroxide.
<u>Cumene hydroperoxide</u>	All acids, reducing agents of all types.
<u>Cyanide salts</u>	Acids of all types, oxidizing agents, carbon dioxide. !!! Will emit toxic fumes of HYDROGEN CYANIDE GAS!!!
<u>Ethyl acetate</u>	Oxidizing agents.
<u>Flammable liquids</u>	Oxidizing agents, explosives.
<u>Fluorine</u>	Do not contact with anything.
<u>Formic acid</u>	Furfuryl alcohol, hydrogen peroxide, thallium trinitrate trihydrate.
<u>Halogens</u>	Flammable liquids, reducing agents.
<u>Hydrocarbons</u>	Oxidizers.
<u>Hydrogen peroxide</u>	Copper, chromium, iron, most metals & their salts, alcohols, acetone, organic materials, aniline, nitromethane, any flammable liquid, combustible materials. (Solns > 8% should be kept refrigerated as hydrogen peroxide can be unstable.)
<u>Inorganic acids</u>	Caustics, ammonia, amines, isocyanates, vinyl acetate, alkylene oxides.
<u>Ketones</u>	Oxidizing agents.
<u>Lactic acid</u>	Oxidizing agents.
<u>Mercury</u>	Acetylene, fulminic acid, ammonia.
<u>Nitric acid</u>	Flammable liquids and solids, reducing agents.
<u>Oxalic acid</u>	Mercury, silver.
<u>Perchloric acid</u>	Flammable liquids and solids, reducing agents (including metal dusts).
<u>Phenols, cresols</u>	Oxidizing reagents.
<u>Picric acid</u>	Ammonia, caustics, metals. !!!Can become EXPLOSIVE!!!
<u>Potassium permanganate</u>	Flammable liquids and solids, reducing agents.
<u>Silver</u>	Acetylene, oxalic acid, tartaric acid, fulminic acid, ammonium cpds.
<u>Sodium nitrate</u>	Antimony, cyanides, sulfur, charcoal, and reducing agents.
<u>Sodium peroxide</u>	Flammable liquids and solids, reducing agents.
<u>Sulfuric acid</u>	Formic acid, alkali metals, unsaturated alcohols, nitric acid, caustics, ammonia, aliphatic amines, alkanolamines, isocyanates, vinyl acetate, acrylates, substituted allyls, alkylene oxides, epichlorohydrin, ketones, aldehydes, alcohols, glycols, phenols, chlorates, permanganates, perchloric acid.
<u>Toluene</u>	Oxidizing reagents.

\* This list is not all-inclusive. Contact Hazardous waste Manager at 491 or EHS 491-6745 for information regarding specific chemicals.

## Chemical Safety Tips

### Peroxide formers

Compounds that form peroxides can be extremely dangerous and may cause an explosion. Watch for crystal formation in the bottle. DO NOT UNSCREW THE CAP! If you do see crystal formation or if the chemical is thought to be older than six months (three months for some), call EHS immediately and DO NOT TOUCH THE BOTTLE!

Peroxide forming chemicals (\* indicates that the chemical should not be stored more than three months):

*Isopropyl ether	Ethyl ether	Ethylene glycol dimethyl ether	Vinyl acetate	Chlorobutadiene
*Divinyl acetylene	Indene	Vinyl ethers	Tetrahydronaphthalene	Butadiene
*Vinylidene chloride	Dioxane	Dicyclopentadiene	Cyclohexene	Tetrafluoroethylene
*Potassium metal	Acetal	Diacetylene	Methylcyclopentane	Vinyl acetylene
*Sodium amide	Cumene	Methyl i-butyl ketone	Methylacetylene	t-Butyl alcohol
Vinyl pyridine	Styrene	9,10 Dihydroanthracene	Tetrahydrofuran	Dibenzocyclopentadiene

### Picric acid

When crystallized, picric acid can cause a violent explosion. If any crystallization is seen in the bottle OR around the lid, DO NOT OPEN THE CONTAINER! Call EHS immediately.

### Formic acid

Formic acid tends to release carbon dioxide and water over time, building up pressure in the container. If you have an old bottle of formic acid (12 months or more), DO NOT TOUCH THE BOTTLE. The pressure in the container may be adequate for an explosion to occur.

### Hydrofluoric acid

When stored in plastic containers, HF may cause a plastic bottle to become brittle. If you see any fracture lines in the bottle, DO NOT PICK IT UP. The bottle may shatter, causing exposure to HF.

### Cyanide salts

When mixed with acids, cyanide salts will evolve hydrogen cyanide gas, which can cause irreparable damage or death. Always keep the pH of cyanide solutions at a pH of 10 or greater.

### Silver nitrate

When mixed with ammonia, silver nitrate will form silver azide. If you have mixed these two chemicals, watch for a white precipitate to form. The precipitate is highly explosive; therefore, DO NOT TOUCH THE CONTAINER if any precipitate is present.

### CHEMICAL GROUP

	EXAMPLE(S)
Aldehydes	Formaldehyde, acetaldehyde, butyraldehyde, glyoxal solutions
Aliphatic acids	Acetic acid
Aliphatic amines	Ethylamine, methyl amine
Alkali metals	Sodium, potassium
Alkanolamines	Aminoethylethanolamine
Alkylene oxides	Butylene oxide
Free-radical generator	Peroxides, halogens, oxygen
Amides	Formamide, dimethyl formamide
Amines	Aniline, methylamine, ethylamine, pyridine, toluenediamine
Halogenated hydrocarbons	Carbon tetrachloride, chloroform, trichloroethylene, trichlorobenzene, methylene chloride
Halogens	Chlorine, bromine, fluorine, iodine
Hydrocarbons	Butane, propane, gasoline, methane, turpentine
Ketones	Acetone, methylethyl ketone, cyclohexanone, methyl isobutyl ketone, acetophenone, camphor oil, diisobutyl ketone
Inorganic acids	Hydrochloric acid, phosphoric acid, hydrofluoric acid
Organic anhydrides	Acetic anhydride

These tips are not all-inclusive and serve only as a guide!

Please consult the Material Safety Data Sheet or EHS for specific incompatibilities for the chemical in question.

# IX. Appendix C

## Common Halogenated and Non-Halogenated Solvents Consolidated By EHS

### Halogenated solvents

Chloroform  
Methylene Chloride (Dichloromethane)  
Carbon tetrachloride  
Trichloroethene  
Trichloroethane  
Tetrachloroethane

### Non-halogenated solvents

Methyl alcohol  
Ethyl alcohol  
Diethyl ether  
Benzene  
Acetonitrile  
Hexane  
Pentane  
Phenol  
Toluene  
Xylene  
Ethyl Acetate  
Cyclohexane  
Butanol  
Acetone

Please note: Formaldehyde is consolidated under a separate waste stream and must not be mixed with other solvents unless the mixture is part of the process generating the waste.

# IX. Appendix D

## Initial Hazardous Waste Container Labels

You can download these labels:

Word Doc: [www.ehs.colostate.edu/WHazWaste/PDF/hwlables.doc](http://www.ehs.colostate.edu/WHazWaste/PDF/hwlables.doc)

PDF Doc: [www.ehs.colostate.edu/WHazWaste/PDF/hwlables.pdf](http://www.ehs.colostate.edu/WHazWaste/PDF/hwlables.pdf)



<b>HAZARDOUS WASTE</b>	<b>HAZARDOUS WASTE</b>
Contents (include chemical name(s) and Percent	Contents (include chemical name(s) and Percent
Responsible Person's Name:	Start Date:
<b>HAZARDOUS WASTE</b>	<b>HAZARDOUS WASTE</b>
Contents (include chemical name(s) and Percent	Contents (include chemical name(s) and Percent
Responsible Person's Name:	Start Date:
<b>HAZARDOUS WASTE</b>	<b>HAZARDOUS WASTE</b>
Contents (include chemical name(s) and Percent	Contents (include chemical name(s) and Percent
Responsible Person's Name:	Start Date:
<b>HAZARDOUS WASTE</b>	<b>HAZARDOUS WASTE</b>
Contents (include chemical name(s) and Percent	Contents (include chemical name(s) and Percent
Responsible Person's Name:	Start Date:
<b>HAZARDOUS WASTE</b>	<b>HAZARDOUS WASTE</b>
Contents (include chemical name(s) and Percent	Contents (include chemical name(s) and Percent
Responsible Person's Name:	Start Date:
<b>HAZARDOUS WASTE</b>	<b>HAZARDOUS WASTE</b>
Contents (include chemical name(s) and Percent	Contents (include chemical name(s) and Percent
Responsible Person's Name:	Start Date: