

Chemical Safety and Waste Management Manual



University of Alabama at Birmingham
Department of Occupational Health & Safety
Chemical Safety Division

2002 EDITION

1. INTRODUCTION.....	3
2. RESPONSIBILITIES	5
2.1 CHEMICAL SAFETY DIRECTOR	5
2.2 DEPARTMENT CHAIRPERSONS/ DIRECTORS	6
2.3 PRINCIPAL INVESTIGATOR/SUPERVISOR	6
2.4 HAZARDOUS AND REGULATED MATERIALS MANAGER	7
2.5 CHEMICAL HYGIENE OFFICER	8
2.6 DESIGNEE	8
2.7 EMPLOYEES	8
3. BASIC SAFETY RULES FOR WORKING WITH CHEMICALS	9
3.1 GENERAL RULES	9
3.2 WORK WITH CARCINOGENS, REPRODUCTIVE TOXINS, ACUTELY TOXIC AGENTS OR CHEMICALS OF UNKNOWN TOXICITY	11
3.3 WORK WITH SELECT AGENT TOXINS COVERED UNDER 42 CFR 72.....	13
3.4 SAFE HANDLING PROCEDURES FOR ADMINISTERING HAZARDOUS DRUGS.	14
4. CHEMICAL MANAGEMENT	17
4.1 CHEMICAL HYGIENE PLAN	17
4.2 PROCUREMENT	17
4.3 CHEMICAL INVENTORY	18
4.4 MATERIAL SAFETY DATA SHEETS (MSDS)	18
4.5 LABELS AND SIGNS.....	19
4.6 RECORD KEEPING.....	20
4.7 CHEMICAL STORAGE.....	21
4.8 TRANSPORTATION.....	22
5. TRAINING.....	25
6. ENVIRONMENTAL MONITORING	27
6.1 ROUTINE MONITORING	27
6.2 ACCEPTABLE EXPOSURE LIMITS.....	27
6.3 INDOOR AIR QUALITY PROBLEMS	28
6.3.1 <i>Recommended Ventilation Rates</i>	29
6.3.2 <i>Recommended Temperature and Humidity</i>	29
6.3.3 <i>Sample Collection</i>	30
6.4 WATER QUALITY TESTING	31
7. MEDICAL SURVEILLANCE AND CONSULTATION.....	33
8. PERSONAL PROTECTIVE EQUIPMENT	35
9. SPILLS AND ACCIDENTS	37

9.1	PERSONAL INJURY	37
9.2	SMALL CHEMICAL SPILLS (LESS THAN 500 ML)	37
9.3	LARGE CHEMICAL SPILLS (500 ML OR MORE).....	38
9.4	MERCURY SPILLS	38
10.	EMERGENCY PROCEDURES.....	41
11.	CHEMICAL WASTE MANAGEMENT	43
11.1	OVERVIEW	43
11.2	UAB CHEMICAL WASTE MANAGEMENT PROGRAM.....	43
11.3	WASTE REDUCTION	45
11.3.1	<i>Waste Minimization:</i>	45
11.3.2	<i>Flammable Organic Solvents:</i>	45
11.3.3	<i>Disposal of Chemicals Down the Sink or Sanitary Sewer System:</i>	46
11.3.4	<i>Substitution:</i>	46
11.3.5	<i>Neutralization and Deactivation:</i>	47
11.3.6	<i>Elimination of Non-hazardous Waste</i>	47
11.3.7	<i>Solvent Recycling</i>	48
11.3.8	<i>Teaching Laboratory Samples</i>	48
11.4	YELLOW BARREL AND CHEMOTHERAPY WASTE	48
11.4.1	<i>Hospital Areas</i>	49
11.4.2	<i>Non-Hospital Areas</i>	49
11.5	HAZARDOUS WASTE DISPOSAL.....	49
11.5.1	<i>Packing the Waste</i>	50
11.5.2	<i>Completing the Manifest</i>	51
11.5.3	<i>Chemical Waste Removal</i>	52
12.	UNIVERSAL WASTE	53
12.1	COMPLETING THE UNIVERSAL WASTE MANIFEST.....	53
	APPENDICES	55
A.	GLOSSARY	55
B.	SHOCK SENSITIVE AND WATER REACTIVE COMPOUNDS	59
C.	CHEMICAL PACKING CODES.....	63
D.	CHEMICAL REGISTRY	65
E.	WASTE MANIFESTS.....	155
F.	ACCIDENT/INCIDENT REPORT FORM.....	157
G.	PROTECTIVE GLOVES	159
H.	HAZARDOUS CHEMICAL INVENTORY FORM.....	163
I.	AUDIT FORMS	165
J.	CHEMICAL HYGIENE PLAN OUTLINE	171
K.	DESTRUCTION AND DISPOSAL OF ETHIDIUM BROMIDE.....	177
L.	MANAGEMENT OF PHOTOGRAPHIC CHEMICALS.....	179
M.	SAFE HANDLING PROCEDURES FOR ADMINISTERING HAZARDOUS DRUGS	181

1. INTRODUCTION

In a comparatively short time, the University of Alabama at Birmingham has gained significant recognition as a center of excellence for teaching, medical services and research programs. This is a highly commendable achievement and one that could not have been realized without the continued support and dedication of faculty, staff members, and employees. Similar unfailing cooperation and support are necessary for the institution to be equally successful in its development of a comprehensive occupational health and safety program for the protection of University personnel, students, and the surrounding community. An important part of this program is concerned with the safe and prudent handling of chemicals and their proper legal disposal as regulated by the Environmental Protection Agency (EPA) and the Alabama Department of Environmental Management (ADEM).

Almost every laboratory and many allied and support personnel at UAB use chemicals in their daily activities. It is the purpose of this manual to describe the operation of the Chemical Safety Program and to provide guidance in establishing safe work practices for the use of chemicals. This program applies to all work operations at this University where employees may be exposed to hazardous substances under normal working conditions or during an emergency.

The Chemical Safety and Waste Management Manual combines both the Chemical Hygiene Plan for laboratories and the Hazard Communication Program for maintenance, environmental services, and other support personnel. The Occupational Safety and Health Administration (OSHA) Hazard Communication Standard may be found at : **http://www.osha-slc.gov/OshStd_data/1910_1200.html**.

The policies and procedures outlined herein are considered the standard of care for chemical safety and environmental health and have been adopted as official University Policy.

2. RESPONSIBILITIES

2.1 Chemical Safety Director

The Chemical Safety Director is a member of the Department of Occupational Health & Safety staff and is primarily responsible for the implementation of the UAB Chemical Safety and Waste Management Program in all areas on UAB premises.

Major duties or activities include the following:

- 2.1.1 Assisting in the preparation and periodic updating of the UAB Chemical Safety and Waste Management Manual which is in accordance with University policy and consistent with governmental regulatory statutes.
- 2.1.2 Providing consultation to investigators on matters relating to laboratory safety, appropriate storage and handling of chemicals and their proper disposal (excluding radioactive materials).
- 2.1.3 Aiding investigators in the development of appropriate emergency procedures for dealing with accidental spills and containment of non-radioactive chemicals.
- 2.1.4 Surveying laboratories in which hazardous chemicals are used, particularly in large quantities or those of unusual hazard potential, to ensure compliance with prescribed safety guidelines or governmental regulations.
- 2.1.5 Investigating accidents or incidents involving hazardous chemicals (excluding radionuclides) to determine probable cause and any violation of safety guidelines or breach of containment. Upon completing the investigation, the Chemical Safety Director will prepare a written report of findings for review and action, if any, by the UAB Chemical Safety Subcommittee.
- 2.1.6 Coordinating the UAB Hazard Communication and Chemical Safety and Waste Management Programs.

The Chemical Safety Director, upon concurrence by the chairperson of the UAB Chemical Safety Subcommittee or, in his/her absence, by at least three other technically qualified members of the Committee, may stop any work involving the use of hazardous chemicals that creates an indisputable risk or danger to personnel or involves experiments prohibited by the Institution. The entire Committee then will review the problem and forward written

recommendation(s) to the President of UAB or his designee for final action.

2.2 Department Chairpersons/Directors

Major duties or activities include the following:

2.2.1 The chief administrator of each Department, Research Institute or Center is responsible for the general safety of faculty, staff, and students working with chemicals in his/her overall area of jurisdiction. It should be emphasized that this responsibility is reduced in no way by activities of the Institutional Biosafety Committee, Radiation Safety Committee, and safety directors.

2.2.2 The chief administrator shall ensure that each principal investigator in his/her area or jurisdiction is provided with access to the UAB Chemical Safety and Waste Management Manual and should stress the importance of compliance with the guidelines therein.

2.2.3 The chief administrator and the principal investigator are mutually responsible for informing Chemical Safety of work involving hazardous chemicals and reporting accidents or incidents involving chemicals to the Chemical Safety Director.

2.2.4 The department chairpersons and faculty members who supervise teaching laboratories are mutually responsible for informing students of proper precautions to be taken when working with hazardous chemicals.

2.2.5 The department chairperson and the principal investigators or supervisors are mutually responsible for ensuring that employees under their direct supervision are properly trained about the potential hazards of the chemicals they use in their work area and trained in the proper use of equipment needed to safely handle these materials.

2.2.6 The department chairperson is responsible for appointing a chemical hygiene officer who will ensure compliance with the Chemical Safety Program and serve as a contact with our office.

2.3 Principal Investigator/Supervisor

The principal investigator or supervisor is responsible for the following:

- 2.3.1 Complying with the UAB Chemical Safety and Waste Management Manual and all applicable regulations.
 - 2.3.2 Ensuring that all persons directly involved in using hazardous chemicals are thoroughly trained in methods to minimize exposure and understand the potential health risk associated with their use. Ensure that documentation of such training is made and kept on file.
 - 2.3.3 Establishing emergency procedures to be followed if there is an overt spill or accident involving chemicals. These procedures should be posted in a prominent place in the laboratory. It is recommended that a responsible member of the laboratory staff be designated to handle emergencies whenever the principal investigator is absent from the premises.
 - 2.3.4 Reporting any unusual incident, such as a spill or release of a hazardous chemical, to the Chemical Safety Director and either the department chairperson or director, whichever is appropriate. Furthermore, in case of injury or suspected injury, an Accident/Incident Report Form should be completed (Appendix F).
 - 2.3.5 Procuring all chemicals used in the department and the equipment needed to safely use, store, and handle the materials.
 - 2.3.6 Working through the Chemical Safety Director and arranging for medical surveillance of laboratory personnel if deemed appropriate by The Workplace.
 - 2.3.7 Ensuring that a current chemical inventory of hazardous materials is being used or stored in the laboratory or work area.
 - 2.3.8 Cooperating with the Chemical Safety Director or his designated representative during inspection visits.
- 2.4 Hazardous and Regulated Materials Manager
- Major duties or activities include the following:
- 2.4.1 Ensuring the safe transport of surplus chemicals and chemical waste to the Hazardous Materials Facility.
 - 2.4.2 Ensuring the safe and legal disposal of all hazardous waste from the Hazardous Materials Facility.

2.5 Chemical Hygiene Officer

Under the direction of the department chairperson and/or the principal investigator, the chemical hygiene officer is responsible for ensuring compliance with the chemical safety program within the department. He/she functions as a liaison with the Chemical Safety Director. He/she may appoint a *Designee* to conduct the routine duties outlined below; however, the chemical hygiene officer is responsible for the completion of these tasks.

2.6 Designee

A designee, appointed by the chemical hygiene officer, is responsible for the following:

2.6.1 Creating and maintaining a chemical inventory.

2.6.2 Maintaining access to MSDSs.

2.6.3 Conducting and maintaining records of training.

2.7 Employees

Employees are responsible for the following:

2.7.1 Practicing safe procedures in the workplace as outlined in the Chemical Safety and Waste Management Manual.

2.7.2 Notifying their supervisor of unsafe conditions or practices observed.

3. BASIC SAFETY RULES FOR WORKING WITH CHEMICALS

3.1 General Rules

To be used for essentially all laboratory or clinical work with chemicals.

- 3.1.1 Avoid "Routine" Exposure: Minimize exposure by any route. Do not smell or taste chemicals. Minimize skin contact. Vent any apparatus that might give off toxic chemicals (i.e., vacuum pumps, distillation columns) into local exhaust system. Inspect glove boxes and gloves before use.
- 3.1.2 Avoid "Horseplay": Do not engage in any behavior that may distract another worker.
- 3.1.3 Personal Protection: Safety glasses with side shields or goggles should be worn by all persons in the lab including visitors. Wear appropriate gloves, inspect, and replace them as necessary. If possible, do not wear contact lenses in the laboratory. If contacts must be worn, inform supervisor so precautions can be taken.
- 3.1.4 Choice of Chemicals: Use only those chemicals for which available ventilation and safety equipment are adequate.
- 3.1.5 Eating, Smoking, etc.: Do not eat, drink, smoke, chew gum, or apply cosmetics in laboratory areas where chemicals are present. Do not consume food or drinks with glassware or utensils that are used for laboratory procedures. Never store food material in refrigerators or storage areas containing chemicals. Always wash hands before and after any activity involving the use of chemicals.
- 3.1.6 Exiting the Lab: All exits should be clear of obstruction. Wash exposed skin before leaving the laboratory.
- 3.1.7 Mouth Suction: Do not use mouth suction for pipetting or starting a siphon.
- 3.1.8 Personal Apparel: Confine long hair and loose clothing. Long pants are preferred when working with hazardous materials. Shorts and short skirts are not recommended. If these are worn, a lab coat, closed front gown or apron should be worn for spill protection. Wear shoes at all times in the laboratory; however, sandals, open-toe or perforated shoes are not adequate.

- 3.1.9 Personal Housekeeping: Keep the work area clean and uncluttered with chemicals and equipment being properly labeled and stored. Inspect eye wash stations weekly and safety showers annually.
- 3.1.10 Planning: Seek information and advice about hazards, plan appropriate protective procedures, and positioning of equipment before beginning any new operation.
- 3.1.11 Unattended Operations: Leave lights on, place an appropriate sign on the door, and provide a method for containment of toxic substances if there is a utility service failure (such as loss of cooling water) when no one is present.
- 3.1.12 Use of Hoods: Use the hood for operations that might result in the release of toxic chemical vapors, gases, or dusts.
 - 3.1.12.1 Have hoods certified annually to ensure adequate performance. It is recommended that this be conducted through the Department of Occupational Health and Safety, Division of Biosafety, since current performance and certification files are maintained in the office.
 - 3.1.12.2 Minimize the amount of material in the hood. Do not block vents or obstruct airflow.
 - 3.1.12.3 Use only a perchloric acid hood with a properly functioning wash down system when working with perchloric acid of greater than 70% concentration.
 - 3.1.12.4 Do not use hoods for chemical storage.
- 3.1.13 Emergency Eyewash and Shower Equipment: Every laboratory that uses materials that are irritating to the eyes must have an eyewash fountain located within that laboratory unit. Generally, one eyewash is required per laboratory unit; however, laboratories considered "high hazard" areas might require additional eyewash units. Contact maintenance for information regarding purchase and installation of eyewashes or safety showers.
 - 3.1.13.1 American National Standard for emergency eyewash and shower equipment, ANSI Z358.1 - 1990, has been adopted by the University of Alabama at Birmingham, Department of Occupational Health and Safety as the single criteria

for minimum design and performance requirements of emergency eyewash and shower equipment.

3.1.13.2 Wall-mounted eyewash units must be Speakman SE 400 or equivalent. Swing away, deck-mounted units must be Speakman SE 572 or equivalent. All units shall deliver potable water. Hand-held drench hoses may be used as support devices for approved eyewash and shower units, but shall not replace them in any manner. Eyewash stations consisting of gravity fed or hand-held bottles of solution are not acceptable.

3.1.13.3 At least one safety shower must be located within 25 feet of a laboratory entrance. Such a location may be in a corridor and one shower may serve multiple laboratory units. Every laboratory must have access to a safety shower unless written documentation can be provided stating the laboratory will not use any material irritating to the skin or eyes. Safety showers must be Speakman SE 236-PR or equivalent and must deliver potable water. Floor drains are not required.

3.1.14 Working Alone: Avoid working alone in a building; do not work alone in a laboratory if procedures are hazardous or potentially hazardous.

3.2 Work With Carcinogens, Reproductive Toxins, Acutely Toxic Agents or Chemicals of Unknown Toxicity

Additional precautions should be taken when using these compounds. *If you are considering pregnancy, handle these substances only in a hood with a confirmed satisfactory performance, using appropriate protective apparel (especially gloves) to prevent skin contact. If you are pregnant, notify your supervisor and consult your physician before working with these materials.*

The following chemicals are designated by the University as Extremely Hazardous Substances. This designation is based on: 1) The potential of the agent to cause severe injury or death in low concentration; 2) The potential to cause death or injury to large numbers of people if released; 3) The agent's suspected ability to induce or promote cancer. This list is not all-inclusive. Other chemical agents that have similar properties or mode of action should be handled with the same precautions.

4-Aminobiphenyl
Arsenic, organic arsenic, and derivatives
Arsine and gaseous derivatives
Asbestos
Azathioprine
Benzidine and derivatives
Bis(chloromethyl)ether and Chloromethyl ether
1, 1-bis(p-chlorophenyl)-2, 2, 2-trichloroethane (DDT)
Bromodeoxyuridine
1, 4-Butanediol dimethylsulfonate (Myleran)
N-Butyl-N-(4-hydroxybutyl)nitrosamine (OH-BBN)
Chlorambucil
Chloropicrin in gas mixtures
Cyanogen
Cyanogen chloride
Cyclophosphamide
Diborane
Diisopropylfluorophosphate
9, 10-Dimethyl-1, 2-benzanthracene (DMBA)
Erionite
Germane
Hexaethyltetraphosphate
Hydrogen cyanide
Hydrogen selenide
Melphalan
N-Methyl-N-benzylnitrosamine
N-Methyl-N-nitrosourea
Mustard Gas
2-Naphthylamine
Nitric oxide
Nitrogen dioxide
Nitrogen tetroxide
Parathion
Phosgene
Phosphine
Polychlorinated biphenyls
2,3,7,8-Tetrachlorodibenzo-p-dioxin
Thorium dioxide
Vinyl chloride

- 3.2.1 Personal Protection: Use all reasonable precautions to minimize exposure. Avoid inhalation, ingestion, and skin contact. Wear a disposable protective outer garment (lint free and impervious) such as a closed front type gown with

long sleeves and knit cuffs. Cuffs must be tucked under gloves. Wear appropriate gloves, long sleeves, and protective eyewear. Shorts and short skirts do not provide adequate protection from these agents, and should not be worn. Wash hands before and after working with these materials.

- 3.2.2 Work and Storage Areas: The above substances must be used and stored in areas with restricted access. Special warning signs must be posted in these areas. Containers should be stored in chemically resistant trays and work must be performed within or above such trays. Cover surfaces where these substances are used with absorbent, plastic-backed paper. Performance certified hoods or other containment devices must be used when generation of toxic vapor, gases, dusts, or aerosols may occur.
 - 3.2.3 Records: Maintain an inventory of amounts of these materials in the lab, the workers involved, any special training conducted, and any emergency information. Material Safety Data Sheets for these substances should be kept readily accessible in the designated work area.
 - 3.2.4 Working Alone: Assure that at least two people are present at all times if a chemical in use is highly toxic or of unknown toxicity.
 - 3.2.5 Spills and Accidents: Notify supervisor of all incidents of exposure or spills; consult a qualified physician when appropriate. If a major spill of an extremely hazardous substance occurs outside the hood, evacuate the area, restrict access, and call the Chemical Safety Director at extension 4-2487. A major spill of a carcinogen or material of high or unknown toxicity would be the release of: any quantity of a gaseous agent, greater than 200 ml of a liquid, or more than 100 milligrams of a powder that could produce inhalable dust. For spills of other hazardous substances, a large spill is one of 500 ml or more. (See Section 9.3)
 - 3.2.6 Medical Surveillance: Employees working with these substances on a routine basis should consult with The Workplace at 2151 Highland Avenue, Birmingham, AL, Ph: 205 933-5300 or with a qualified physician of their choice. (See Section 7)
- 3.3 Work with Select Agent Toxins Covered under 42 CFR 72

3.3.1 In response to concern that illegitimate use of certain infectious agents and toxins could have serious effects on human health and safety, the Centers for Disease Control (CDC) and the Department of Health and Human Services (HHS) issued laws requiring the registration of facilities using and transferring certain materials (select agents). Information about the infectious agents covered under this legislation may be obtained from the Department of Occupational Health & Safety web page at <http://healthsafe.uab.edu>, or from the Division of Biosafety at 4-2487. The following toxins are covered under this legislation:

- Abrin
- Aflatoxins
- Botulinum toxins
- Clostridium perfringens* epsilon toxin
- Conotoxins
- Diacetoxyscirpenol
- Ricin
- Saxitoxin
- Shigatoxin
- Staphylococcal enterotoxins
- Tetrodotoxin
- T-2 toxin

3.3.2 Those planning to do research involving these agents must register with the Department of Occupational Health and Safety. Depending on the specific type of toxin, registration directly with the CDC may be required. Call 4-2487 for assistance in registration.

3.4 Safe Handling Procedures for Administering Hazardous Drugs

3.4.1 The occupational management of cytotoxic chemicals has been clarified by the OSHA Hazard Communication Standard [29CFR1910.1200]. In order to provide recommendations consistent with current scientific knowledge, OSHA has published new, expanded informational guidelines dealing with controlling exposure to hazardous drugs in addition to cytotoxic agents. These guidelines are summarized in Appendix M.

3.4.2 The following criteria for deeming a drug as hazardous were developed by the American Society of Hospital Pharmacists and were used as the basis for new guidelines.

- genotoxicity
- carcinogenicity
- teratogenicity or infertility impairment
- serious organ or other toxic manifestation at low doses in experimental animals or treated patients
- investigational drugs

OSHA Hazardous Drugs

Altretamine	Ifosfamide
Aminoglutethimide	Interferon Alfa
Azathioprine	Isotretinoin
L-Asparaginase	Leuprolide
Bleomycin	Levamisole
Busulfan	Lomustine
Carboplatin	Mechlorethamine
Carmustine	Medroxyprogesterone
Chlorambucil	Megestrol
Chloramphenicol	Melphalan
Chlorotrianisene	Mercaptopurine
Chlorozotocin	Methotrexate
Cyclosporin	Mitomycin
Cisplatin	Mitotane
Cyclophosphamide	Mitoxantrone
Cytarabine	Nafarelin
Dacarbazine	Pentamidine
Dactinomycin	Pipobroman
Daunorubicin	Paclitaxel
Diethylstilbesterol	Plicamycin
Doxorubicin	Procarbazine
Estradiol	Ribavirin
Estramustine	Streptozotocin
Ethinyl Estradiol	Tamoxifen
Etoposide	Testolactone
Floxuridine	Thioguanine
Finasteride	Thiotepa
Fluorouracil	Uracil Mustard
Flutamide	Vidarabine
Gancyclovir	Vinblastine
Hydroxyurea	Vincristine
Idarubicin	Zidovudine

All investigational drugs should be considered hazardous unless their exclusion can be supported by scientific evidence.

3.4.3 Persons administering these drugs or using them in research should refer to the precautions in Appendix M.

4. CHEMICAL MANAGEMENT

4.1 Chemical Hygiene Plan

4.1.1 The UAB Department of Occupational Health and Safety requires each laboratory on campus to develop and abide by a written Chemical Hygiene Plan (CHP) as outlined by the U.S. Occupational Safety and Health Administration (OSHA) in 29 CFR 1910.1450 “Occupational Exposure to Hazardous Chemicals in Laboratories.” (full text may be found at http://www.osha-slc.gov/OshStd_data/1910_1450.html)

4.1.2 The required elements of the plan are:

Standard Operating Procedures

Criteria for Exposure Control Measures

Fume Hoods and Protective Equipment

Information and Training

Circumstances Requiring Prior Approval

Medical Consultation and Examination

Chemical Hygiene Officer

Work with Extremely Hazardous Substances

4.1.3 Appendix J contains an outline for a laboratory specific CHP. Each principal investigator or clinical laboratory director should ensure that each area under their supervision is covered by a CHP that covers all aspects of chemical use in that area.

4.2 Procurement

4.2.1 All chemical purchases should be requested by the department chairperson or principal investigator and processed through the UAB Purchasing Department.

4.2.2 Material Safety Data Sheets must accompany all initial incoming shipments of hazardous chemicals.

4.2.3 Before ordering a new chemical, lab or clinic personnel should obtain information on proper handling, storage and disposal methods for that chemical.

4.2.4 All chemicals should be dated when received and when opened. Chemicals more than two years old should be considered for disposal.

4.2.5 Some chemicals may require prior approval, a Select Agent Registration number or a Drug Enforcement Agency (DEA) registration number before ordering.

4.3 Chemical Inventory

The chemical hygiene officer must create an inventory of every hazardous substance known to be present in the workplace. This hazardous chemical inventory must be updated regularly. Material Safety Data Sheets (MSDS) must be available electronically or in hard copy form for review by employees.

4.3.1 Accessibility

Any employee can review or copy this written Chemical Safety and Waste Management Manual, the chemical inventory, their Chemical Hygiene Plan or the MSDS files by contacting their chemical hygiene officer or the Chemical Safety Director in the Department of Occupational Health and Safety.

4.3.2 Hazard Determination

The manufacturer must supply an MSDS to the chemical hygiene officer if a chemical or chemical product is hazardous.

4.3.3 Hazardous substances include:

Any substance listed in 29 CFR 1910, subpart Z. (http://www.osha-slc.gov/OshStd_toc/OSHA_Std_toc_1910_SUBPART_Z.html)

Any substance listed in The American Conference of Governmental Industrial Hygienists' Threshold Limit Values for Chemical Substances and Physical Agents in the Workplace

The National Toxicology Programs' (NTP), Annual Report on Carcinogens

International Agency for Research on Cancers' (IARC), Monographs

Any substance otherwise known to be hazardous

Manufacturers, as a minimum, must survey MSDSs for all substances on these lists.

4.4 Material Safety Data Sheets (MSDS)

- 4.4.1 The chemical hygiene officer must obtain a current MSDS from the manufacturer for all hazardous chemicals, or ensure that they are available electronically (CD-ROM, Internet). These sheets contain information on the health and physical hazards and proper handling procedures for these chemicals. Sometimes the information on the MSDS may be inadequate for the particular situation or may need interpretation. In these cases, the Chemical Safety Director should be contacted for assistance.
- 4.4.2 Consumer products used, as they would be at home do not require an MSDS present in the file. However, if the material is frequently used, used in large quantity, or used in a way other than that expected from a consumer, an MSDS should be kept on file.
- 4.4.3 Sources of MSDSs include: the chemical supplier, the chemical manufacturer, and various Internet resources. Internet sources may be accessed through the Department of Occupational Health & Safety web page at **<http://healthsafe.uab.edu>**. Contact Chemical Safety if an MSDS cannot be obtained from these sources.
- 4.4.4 The MSDS file must be readily accessible to all employees. This file must be updated routinely to account for MSDS changes and the addition of new chemicals.
- 4.5 Labels and Signs
- 4.5.1 All hazardous chemicals are required by law to be labeled by the manufacturer. The chemical hygiene officer must ensure that each existing container and any incoming containers are properly labeled. The label must provide the following information:
- The identity of the chemical
 - Any warnings
 - The manufacturer's name and address
- 4.5.2 Products that are not labeled should be considered hazardous until identification and hazard evaluation can be completed.
- 4.5.3 Temporary or transfer containers, intended for immediate use by the person who transferred the chemical, need not be labeled. However, if the chemical is left unattended, even

briefly, or is to be used by another individual, the container must be labeled. Temporary labels must include:

The identity of the chemical

Any warnings

The target organs affected, if applicable

- 4.5.4 Signs are used to warn employees of chemical and physical dangers, such as designated areas where carcinogens or highly toxic chemicals are used or stored. Chemical hygiene officers should post all high hazard areas or hazardous chemical storage areas with the proper signs.
- 4.5.5 Emergency phone numbers and emergency contact numbers should be posted on all laboratory doors. The contact for laboratories should be the principal investigator or chemical hygiene officer. Emergency notification stickers are available from the Department of Occupational Health and Safety.
- 4.5.6 Certain accrediting agencies require additional information.

4.6 Record Keeping

Records will be generated and retained as part of compliance with the UAB Health and Safety program or Federal requirements. This section summarizes the kinds of records kept and by whom.

- 4.6.1 Hazardous chemical inventories and MSDS files are kept and maintained by chemical hygiene officers or principal investigators within individual departments.
- 4.6.2 Environmental monitoring records are maintained by the Department of Occupational Health and Safety and chemical hygiene officers within individual departments.
- 4.6.3 Medical records and consultation records are maintained by The Workplace.
- 4.6.4 Training records are maintained by chemical hygiene officers or principal investigators within the individual departments. Records of required training conducted through the Department of Occupational Health and Safety are also maintained by the Human Resources Department.
- 4.6.5 Fume hood certification records are maintained by the Department of Occupational Health and Safety, Division of Biosafety.

4.7 Chemical Storage

4.7.1 The chemical storage area should be posted with an appropriate sign.

4.7.2 Chemicals must be stored in appropriate containers and correctly labeled.

4.7.3 Chemical compatibility must be determined to reduce the likelihood of hazardous reactions. The following steps should be followed when assessing chemical compatibility:

4.7.3.1 Identify the chemical.

4.7.3.2 Determine the Hazard Class of the chemical:

Toxic
Flammable
Reactive
Corrosive
Oxidizer
Low Hazard

4.7.3.3 Segregate the chemicals according to the above classifications. If there is a potential for hazardous interactions within a specific class then further separation is warranted. Label the area for each class of chemical.

4.7.3.4 General Rules for Compatibility

4.7.3.4.1 Highly toxic or carcinogenic chemicals should be ordered and stored in the smallest practical amount.

4.7.3.4.2 Flammable or combustible liquids must be stored in approved containers, flammable material storage cabinets, or in properly designed under-hood storage areas. No more than 10 gallons of flammable liquids may be stored outside of an approved flammable material storage cabinet. No more than a total of 60 gallons of flammable liquids may be stored in a lab. (Please refer to the UAB General Safety Manual for more detail.)

4.7.3.4.3 Water reactive chemicals should be located in a cool, dry area away from potential sources of water.

4.7.3.4.4 Corrosives should be separated into acid and base subclasses. Large containers of corrosives should be stored on the lowest shelf or in special cabinets. Acids and bases should be separated from active metals and substances that can generate toxic gases upon contact. Nitric acid must be stored separately.

4.7.3.4.5 Oxidizers must be separated from reducing agents and combustible or flammable chemicals.

4.7.4.5 Compressed gas cylinders must be stored in well-ventilated areas where the temperature does not exceed 125° F. Cylinders must be secured in an upright position. Cylinders not in use should have the valve protection caps in place. The maintenance department will install wall brackets, chains or non-elastic straps for securing cylinders.

4.7.4.6 Never mix chemicals unless such mixing is part of a documented and approved procedure.

4.8 Transportation

4.8.1 All chemicals should be labeled before being transported.

4.8.2 When chemicals are hand-carried, they should be placed in an outside container or acid-carrying bucket to protect against breakage and spillage.

4.8.3 When chemicals are transported by wheeled cart, the cart should be stable under the load and have wheels large enough to negotiate uneven surfaces (such as expansion joints and floor drain depressions) without tipping or stopping suddenly. Incompatible chemicals should never be transported on the same cart.

4.8.4 Laboratory moves and transfers of large amounts of chemicals must be coordinated through the Hazardous Materials Facility. It is illegal to ship hazardous materials by common carrier unless Department of Transportation regulations are followed.

4.8.5 Secondary containment should always be used to contain substances if there is a break in the primary container.

- 4.8.6 To avoid exposure to persons on passenger elevators, if practical, chemicals should be transported on freight elevators only. The following are conditions for chemical transport in elevators:
- 4.8.6.1 Chemicals should be labeled and carried in secure break-resistant containers with tight-fitting caps. The packing systems supplied by manufacturers for shipping are excellent at preventing breakage during transport and may be reused for this purpose.
 - 4.8.6.2 The individual transporting the hazardous chemicals should operate the elevator alone, whenever possible.
- 4.8.7 The safe transport of small quantities of flammable liquids should include provisions that include the use of rugged pressure-resistant, non-venting containers, storage during transport in a well-ventilated vehicle, and elimination of potential ignition sources.
- 4.8.8 If there is a spill or accident, one should contact the Hazardous Materials Manager at extension 4-3797; state his or her name, telephone number, location of incident, the name and quantity of material involved, and the extent of injuries, if any. Take all necessary emergency measures such as removing contaminated clothing, washing any chemicals from the skin with soap and water and seeking prompt medical attention. If it is necessary for the individual transporting the chemicals to leave the scene of an accident or spill, he/she should delegate someone to remain at the scene until emergency personnel arrive. The responsible party should return as soon as possible.
- 4.8.9 Cylinders that contain compressed gases are primarily shipping containers and should not be subjected to rough handling or abuse. Such misuse can seriously weaken the cylinder and render it unfit for further use or transform it into a missile having sufficient energy to propel it through masonry walls. To protect the valve during transportation, the cover cap should be left screwed on hand-tight until the cylinder is in place and ready for actual use. Cylinders should never be rolled or dragged. The preferred transport method, even for short distances, is by suitable hand truck with the cylinder strapped in place. Only one cylinder

should be handled at a time. After a cylinder has been relocated, it must be restrained by straps, chains, or a suitable stand to prevent it from falling. The maintenance department should be contacted to install wall brackets and chains in laboratories for securing gas cylinders.

5. TRAINING

- 5.1 Objective: To provide employees with information and training to ensure safe handling of hazardous materials in their work area.
- 5.2 Such information shall be provided at the time of an employee's initial assignment to a work area where hazardous chemicals are present, before assignments involving new exposure situations. Annual training is recommended. Chemical hygiene officers or principal investigators are responsible for ensuring that their departmental employees are informed and trained and that all training is documented. Documentation of training should be retained in the laboratory or departmental office at all times.
- 5.3 All employees, including temporary employees, must receive information and training on the following:
 - 5.3.1 The requirements of the Hazard Communication and Chemical Safety and Waste Management Programs
 - 5.3.2 Locations where hazardous chemicals are present
 - 5.3.3 The physical and health hazards of chemicals
 - 5.3.4 How to read and interpret labels and MSDSs
 - 5.3.5 Methods and observations used to detect the presence of hazardous chemicals
 - 5.3.6 The location and availability of the written program, MSDSs, the hazardous chemical inventory and any reference material
 - 5.3.7 Methods of protection
- 5.4 Employees must be informed and trained for hazards associated with any new chemicals introduced to the workplace
- 5.5 Records of training must be kept by the departmental chemical hygiene officer or principal investigators and must include:
 - 5.5.1 The name and social security number of the person receiving training
 - 5.5.2 The length and type of training
 - 5.5.3 The date of training

6. ENVIRONMENTAL MONITORING

The UAB Department of Occupational Health and Safety will monitor employee exposure levels to any substance regulated by Occupational Safety and Health Administration (OSHA) or the American Conference of Governmental Industrial Hygienists (ACGIH). Results of this testing may be compared to OSHA Permissible Exposure Limits (PELs), ACGIH Threshold Limit Values (TLVs), NIOSH Recommended Exposure Limits (RELs), or other applicable guidelines.

6.1 Routine Monitoring

Routine monitoring may be initiated under several conditions: if there is reason to believe exposure levels exceed the designated action level (usually one half the PEL), if a regulatory agency mandates regular monitoring, or if a change in a procedure may significantly change employee exposure to a substance.

6.1.1 If the action level is exceeded, corrective procedures will be recommended and monitoring will be repeated periodically as required by the standard.

6.1.2 If the action level is not exceeded on either the initial or follow-up monitoring, then monitoring may be discontinued as allowed by the standard.

6.1.3 Certain chemical agents are monitored on a scheduled basis. If your area uses one of these agents on a regular basis, and is not scheduled for routine monitoring, please contact the Chemical Safety Division. These include:

- Halogenated anesthetics (halothane, ethrane, isoflurane, desflurane) -- semi-annually in surgical suites, as requested in other areas
- Nitrous oxide -- semi-annually in surgical suites, as requested in other areas
- Glutaraldehyde (Cidex®) -- annually
- Ethylene oxide -- annually
- Xylene -- annually
- Formaldehyde -- annually

6.2 Acceptable Exposure Limits

The following is a list of acceptable exposure limits to those environmental contaminants most commonly measured. Limits are based on an 8-hour per day, 5 day per week time weighted average

designed to protect most healthy workers from adverse health effects.

Carbon Monoxide	25 ppm	ACGIH
Desflurane*	50 ppm	Manufacturer
Enflurane*	75 ppm	ACGIH
Ethylene Oxide	1 ppm	OSHA
Formaldehyde	0.75 ppm	OSHA
Glutaraldehyde	0.2 ppm	OSHA
Halothane*	50 ppm	ACGIH
Isoflurane*	2 ppm	NIOSH
Lead	50 $\mu\text{g}/\text{m}^3$	OSHA
Mercury	0.025 mg/m^3	ACGIH
Nitrous Oxide	50 ppm	ACGIH
Toluene	50 ppm	ACGIH
Total Dust	10 mg/m^3	ACGIH
Xylene	100 ppm	ACGIH

*NIOSH recommends a 2-ppm limit for all halogenated anesthetics

Assessment of exposure to other chemical and physical agents can be requested through the Chemical Safety Division. These agents include: solvents, dust, silica, lead, carbon monoxide, nitrogen dioxide, explosive gases, oxygen, noise, total illumination and non-ionizing electromagnetic radiation. Exposure to ionizing radiation is measured by the Radiation Safety Division.

6.3 Indoor Air Quality Problems

Modern office buildings are generally considered safe and healthful working environments. However, energy conservation measures instituted during the early 1970s have minimized the infiltration of outside air and contributed to the buildup of indoor air contaminants.

Complaints are often of a subjective, nonspecific nature and are associated with periods of occupancy. These symptoms often disappear when the employee leaves the workplace. They include headache, dizziness, nausea, tiredness, lack of concentration, and eye, nose and throat irritation. Generally, an indoor air quality

screen is initiated when 20% or more of the employees in an area are affected. Usually these screens are collaborative efforts involving both the Chemical Safety Division and the Biosafety Division.

Investigations of indoor air quality (IAQ) often fail to identify any harmful levels of specific toxic substances. Employee complaints may result from items such as cigarette smoke, odors, low-level contaminants, poor air circulation, thermal gradients, humidity, job pressures, lighting, workstation design, or noise. The combined effect of multiple, low-level air contaminants has not been investigated thoroughly and may be a cause of the problem.

6.3.1 Recommended Ventilation Rates

The American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) established recommended ventilation rates for indoor environments in 1973.

6.3.1.1 ASHRAE amended this standard in 1975 to specify the minimum value of 5 cubic feet per minute (CFM) of outdoor air per person be used in building design. This standard has been incorporated into the building codes of many cities and states.

6.3.1.2 The 62-1989 standard recommends a minimum of 15 CFM of outdoor air per person for offices (reception areas) and 20 CFM per person for general office space with a moderate amount of smoking. Sixty CFM per person is recommended for smoking lounges with local mechanical exhaust ventilation and no air recirculation.

6.3.2 Recommended Temperature and Humidity

The American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) suggests indoor temperature and humidity ranges as listed in the table below. These values assume building occupants will be wearing light indoor clothing.

Relative Humidity	Winter Temperature	Summer Temperature
30%	68.5°F - 76.0°F	74.0°F - 80.0°F
40%	68.5°F - 75.5°F	73.5°F - 79.5°F

50%	68.5°F - 74.5°F	73.0°F - 79.0°F
60%	68.0°F - 74.0°F	72.5°F - 78.0°F

Indoor relative humidity should be kept below 60% to discourage mold growth. Temperatures above 76°F have been associated with indoor air quality complaints regardless of the relative humidity.

6.3.3 Sample Collection

Initial sampling will normally consist of collecting environmental data for temperature, humidity, and airborne contaminants that may include: formaldehyde, carbon dioxide, carbon monoxide, nitrogen dioxide, ozone, and total hydrocarbons.

6.3.3.1 Airborne Contaminant Levels

Carbon dioxide measurement is a useful screening technique that is often helpful in determining whether adequate quantities of outside fresh air have been introduced and distributed into the building. The following list relates various levels of carbon dioxide with expected air quality perception. These levels are only guidelines. If carbon dioxide levels exceed 1000 ppm, it does not indicate that the building is hazardous. This level should be used as a guideline that helps maximize comfort for all occupants.

Carbon Dioxide Levels:

250 - 350 ppm	Normal outdoor ambient concentrations
600 ppm	Minimal air quality complaints
600 - 1000 ppm	Not easily interpreted
1000 ppm	Indicates inadequate ventilation and complaints such as headaches, fatigue, and eye and throat irritation will be more widespread. 1000 ppm should be used as an upper limit for indoor levels.

6.3.3.2 Other Common Contaminants

The following levels are within ACGIH TLVs for contaminants commonly used for indoor air quality screening.

Carbon monoxide	0 - 25 ppm
Formaldehyde	0 - 0.5 ppm
Nitrogen dioxide	0 - 3 ppm
Ozone	0 - 0.1 ppm
Total hydrocarbons	0 - 2 ppm

6.4 Water Quality Testing

All water on campus is supplied by the City of Birmingham Water Works. The quality of the water is consistently well within the Environmental Protection Agency's guidelines for drinking water. However, if there is concern that a chemical contaminant is present in the water, Chemical Safety can arrange for sample collection and testing. The Water Works and the Jefferson County Health Department can also perform tests on the drinking water supplied to the University.

Certain activities, such as fire hydrant testing, construction, or plumbing modifications, can cause discoloration of the water or release of unusual amounts of particulates into the water. Changes in the amount of chlorine and other treatment chemicals can alter the color, taste, and smell of drinking water. These conditions are temporary and can usually be remedied by flushing the pipes. Notify maintenance if large amounts of particulates are present as this can damage fixtures.

7. MEDICAL SURVEILLANCE AND CONSULTATION

7.1 Medical surveillance or consultation will be provided by The Workplace in the following situations and will be provided by or under a qualified physician:

7.1.1 If an employee develops signs and symptoms associated with a hazardous chemical to which he/she has been exposed.

7.1.2 If environmental monitoring reveals exposure levels consistently above the action level for an OSHA regulated substance with medical surveillance requirements. Formaldehyde, arsenic, asbestos, lead, benzene, and ethylene oxide are among those chemicals with OSHA guidelines for medical surveillance. The action levels for these chemicals are given below.

Arsenic	5 µg/m ³
Asbestos	0.1 fiber/cc
Benzene	0.5 ppm
Cadmium	2.5 µg/m ³
Ethylene oxide	0.5 ppm
Formaldehyde	0.5 ppm
Lead	30 µg/m ³

7.1.3 If an event takes place such as a spill, leak, direct skin contact, or other occurrence, that results in the likelihood of over-exposure.

7.2 Medical surveillance may also be needed if an employee regularly works with hazardous drugs or one of the chemicals identified by the Chemical Safety Subcommittee as extremely hazardous. The Department of Occupational Health and Safety should be contacted to determine if medical surveillance or consultation is warranted.

8. PERSONAL PROTECTIVE EQUIPMENT

Minimize the risk of injury or exposure by using the appropriate personal protective equipment such as protective eyewear, gloves, and lab coats whenever chemicals are in use. Consult the following information about the use of protective clothing:

- 8.1 Gloves: Must be of a material compatible with the chemicals used (see Appendix G). Gloves should be checked for holes or tears before each use.
- 8.2 Safety Glasses: Safety glasses alone should not be used when working with liquid chemicals. Safety glasses are primarily for deflecting objects away from the eyes.
- 8.3 Splash goggles: Form the liquid-proof seal around the eyes necessary when working with liquid chemicals.
- 8.4 Goggles with face shield: For chemicals that are more hazardous, corrosives, and hot chemicals, both face shield and goggles must be used. The goggles protect the eyes in case the splash is from the side or beneath the shield.
- 8.5 Laboratory coat: Long-sleeved coats offer the wearer some skin protection against minor splashes, allowing the chemical to react with something before reacting with the skin, and offering the victim time to remove the coat and shower.
- 8.6 Laboratory coat and apron: Rubberized aprons offer additional time to react to the splash than the coat alone. Arm guards should be worn when using an apron.
- 8.7 Closed front gown: Impervious, closed front gowns with long sleeves and knit cuffs provide increased protection when working with hazardous drugs or extremely hazardous chemicals. Cuffs must be tucked under gloves. Contaminated outer garments should be cleaned or disposed of properly.
- 8.8 Respirators: Engineering control measures and work practices are designed and implemented to eliminate or minimize atmospheric contamination. However, when contamination exceeds the regulated levels, an employee may be required to wear a respirator. If a respirator is required, the employee must be properly fit tested, trained and have a physical examination before use. The Department of Occupational Health and Safety will provide this service and should be consulted before any type of respirator is used.

9. SPILLS AND ACCIDENTS

9.1 Personal Injury

- 9.1.1 Eye Contact: Promptly flush eyes with water for 15 minutes and seek medical attention.
- 9.1.2 Ingestion: Call Poison Control (4-4606) and seek medical attention.
- 9.1.3 Skin Contact: Promptly flush the affected area with water and remove any contaminated clothing. Soap may be necessary for non-water soluble compounds. If symptoms persist after washing, seek medical attention.
- 9.1.4 Inhalation: Move the victim to fresh air. If the victim is unconscious or not breathing, seek emergency medical attention immediately. Death or permanent injury can occur within three to five minutes.

Complete the Accident/Injury Report Form (Appendix F) and send any cases of non-life threatening injury or suspected injury to The Workplace, 2151 Highland Avenue, Birmingham, AL 35205. Injuries appearing to present immediate danger to life or limb should be transported to the University Hospital Emergency Department.

9.2 Small Chemical Spills (Less than 500 ml)

- 9.2.1 Promptly clean up small spills using appropriate protective apparel and equipment. Consult the MSDS for any special precautions needed. A spill kit should be available. These may be ordered from scientific and safety supply vendors or may be made up by lab personnel. A basic spill kit should include: latex surgical gloves, safety glasses or goggles, disposable lab coats, aprons or gowns, paper towels, spill booms or pillows, vermiculite, a small disposable plastic broom and dust pan, zip-loc bags, plastic garbage bags and a small bottle of detergent cleaning solution. Spill kit supplies may be stored in a bucket that can be used to contain the waste generated in the clean up.
- 9.2.2 Small spills can be absorbed using paper towels, spill pillows or vermiculite. Absorbent materials must generally be disposed of as chemical waste unless the spilled material can be evaporated in a properly functioning fume hood or neutralized before clean up.

9.2.3 Spills of powdered chemicals should be carefully swept up and contained. Avoid vigorous sweeping or other actions that might generate respirable dust. Clean or dispose of contaminated materials properly.

9.3 Large Chemical Spills (500 ml or more)

9.3.1 In case of a large spill of a known hazardous chemical, contain the spill; if possible, warn others, restrict access, and evacuate the area. Contact the Hazardous Materials Manager at 4-3797 immediately and give your name, extension, location of spill, as well as the quantity and name of the chemical spilled. Decontaminate personnel that may have been splashed with the chemical and contact physicians at The Workplace, 933-5300.

Contact with corrosive materials requires immediate attention. Know the location of safety showers and eyewashes in your area. An Accident/Injury Report Form should be completed and a copy forwarded to the Department of Risk Management.

The Hazardous Materials Manager will contact the spill response team, which will have full authority over the clean-up operation. The spill response team has been specially trained to handle hazardous chemical spills. **Anyone deliberately breaching the authority of the spill response team at the site of a spill, thereby jeopardizing the health and safety of other UAB employees, may be subject to disciplinary action.**

The Hazardous Materials Manager or his designee will be responsible for calling any additional personnel needed at the site of the spill.

9.4 Mercury Spills

Mercury is commonly used throughout the University in many technical and diagnostic procedures. When contained properly, it is of little threat to our health. Immediate attention to mercury spills is important because spilled mercury can accumulate over time resulting in exposure to mercury vapor.

9.4.1 When a spill occurs the following steps should be performed:

9.4.1.1 Restrict the area -- allow no one to enter the room except for urgent treatment of a patient or containment of the spill.

- 9.4.1.2 Contact the Hazardous Materials Manager (4-3797) in the Department of Occupational Health and Safety. The department is equipped with a special mercury vacuum to effectively remove spilled mercury.
- 9.4.1.3 Patients may need to be moved to allow mercury to be cleaned from the area.
- 9.4.2 Broken thermometers that contain small amounts of mercury may be safely collected in a container that can be sealed. Always wear disposable gloves when cleaning up mercury and dispose of all mercury and mercury contaminated waste through the chemical waste program. Anyone handling mercury or cleaning up mercury spills should wash their hands thoroughly with soap and water, when finished. Report all mercury spills to the Hazardous Materials Manager.

10. EMERGENCY PROCEDURES

- 10.1 When an emergency occurs in a non-Hospital area, report the nature and location of the emergency to UAB Police (4-3535). Hospital locations dial 4-0001. Give your name, telephone number, as well as your building and room number. State where you will meet the emergency vehicle. State how many persons are involved, and the type and severity of any observed injuries.
- 10.2 Notify others in the area about the nature of the emergency.
- 10.3 Meet the ambulance or fire crews at the place you indicated in 10.1 above. Send someone else if you cannot go.
- 10.4 Do not move any injured persons unless they are in further danger. Keep them warm. Unnecessary movement can severely complicate neck injuries and fractures.
- 10.5 If chemicals have been spilled on someone, get the individual under a shower or spigot to wash the affected area thoroughly. If chemicals are in the eyes, irrigate with plenty of water for at least 15 minutes. Check for, and remove contact lenses before irrigation; however, contact lenses may be difficult to remove, and the irrigation must not be delayed.
- 10.6 If hazardous chemicals are ingested, try to identify the substances involved. Notify medical staff or the local poison control center (4-4606). Never attempt to give anything by mouth to an unconscious person.
- 10.7 If there is a very small fire, extinguish it by smothering with a nonflammable material such as an inverted beaker or using the appropriate fire extinguisher. Fight the fire from the position of escape. Cut off electrical circuits and gas lines. Close fire doors.
- 10.8 If a person's clothes are on fire, douse the individual with water or wrap the person in a coat, blanket or whatever is available to extinguish the fire. Roll the person on the floor, if necessary. Remove any clothing contaminated with chemicals. Douse with water to remove heat. Wrap the injured person to avoid shock and exposure. Get medical attention.
- 10.9 Do not touch a person in contact with a live electrical circuit. Disconnect the power first or you may be seriously injured.

11. CHEMICAL WASTE MANAGEMENT

11.1 Overview

Used or unwanted chemicals generated at UAB can be disposed of by the following methods:

11.1.1 If the chemicals are non-hazardous, they may be disposed of through the regular trash as non-hazardous chemical waste. Contact the Hazardous and Regulated Materials Manager (4-3797) for assistance.

11.1.2 If the materials are hazardous there are three disposal options.

11.1.2.1 Disposal through a special packing, labeling, and handling system designed for laboratory type chemicals or chemicals used by the maintenance staff.

11.1.2.2 Disposal through the yellow waste barrel system designed for items requiring incineration. This would include materials, such as animal bedding, paper etc., contaminated with trace amounts of carcinogens or reproductive toxins, highly toxic material or material of unknown toxicity, not regulated as EPA hazardous waste.

11.1.2.3 Disposal through the hazardous drug/chemotherapy disposal containers. This would include IV tubing and other items associated with the administration or preparation of hazardous drugs. These containers and the yellow barrels are handled in the medical waste program.

11.1.2 Chemicals should not be disposed of through the red waste barrel system designed for medical waste to be microwave sterilized and shredded.

11.1.3 Certain materials such as batteries, pesticides and fluorescent bulbs and ballasts must be disposed of as universal waste. See section 12.

11.2 The UAB Chemical Waste Management Program is designed to achieve three goals:

11.2.1 Protection of the health and safety of the campus community as well as surrounding communities:

Proper training, evaluation, packing, and labeling protects the health and safety of employees handling hazardous chemicals, as well as others who might come in contact with them during the disposal process.

11.2.2 Reduction of chemical waste in laboratories and other facilities:

The volume of chemical waste generated at UAB can be reduced by:

11.2.2.1 Recovery of certain high purity solvents through distillation

11.2.2.2 Reuse of many flammable solvents for fuels

11.2.2.3 Disposal of non-hazardous waste separately from hazardous chemical waste

11.2.2.4 Recycling unused chemicals in teaching and research laboratories

11.2.2.5 Procedures to render hazardous chemical waste non-hazardous

11.2.3 Compliance with federal, state, and local regulation:

Policy at the University of Alabama at Birmingham is to maintain compliance with the United States Department of Transportation (DOT) and Environmental Protection Agency (EPA) regulations regarding packing, labeling, and disposal of hazardous chemical waste. In addition, the Alabama Department of Environmental Management (ADEM) and the Jefferson County Commission regulate chemical waste disposal via the sanitary sewer system.

At UAB, the Department of Occupational Health and Safety has the primary responsibility for the safe and legal management of hazardous chemical waste and provides the service for proper removal and disposal. However, it is also the legal and ethical responsibility of each department head, faculty member, and laboratory director, as generators, to assure that the management of hazardous chemical waste from each component under his/her supervision follows the proper disposal process.

In addition to chemical waste, there are four other types of waste generated at UAB. Please consult the appropriate procedure manuals for disposal of these wastes.

- 11.2.3.1 Universal waste: Examples: batteries, pesticides, mercury containing lamps and devices.
- 11.2.3.2 Low level radioactive waste: Examples: radioactive solid, liquid, and animal waste.
- 11.2.3.3 Biohazardous infectious waste: Examples: infectious laboratory cultures, oncogenic viruses, infectious human and animal waste
- 11.2.3.4 Non-hazardous solid waste: Examples: garbage, rubbish, paper or cardboard refuse, non-contaminated glass.

11.3 Waste Reduction

11.3.1 Waste Minimization:

- 11.3.1.1 Avoid purchasing and using large quantities when it is not necessary.
- 11.3.1.2 Implement microscale techniques whenever possible.

11.3.2 Flammable Organic Solvents:

11.3.2.1 Collection for reuse

Many flammable organics can be reused for fuel unless they are extremely toxic or give off toxic products of combustion. Do not combine any other chemicals with the flammable organic solvents listed below. Halogenated Solvents (solvents containing chlorine, fluorine, or bromine), acutely toxic flammables, acids, bases, heavy metals, oxidizers, and pesticides should be collected in separate containers. The following is a list of the most frequently encountered compounds that are suitable for heat recovery:

Acetone	Methyl alcohol
2-Butanol	Methyl cellosolve
Butyl alcohol	Pentane
Cyclohexane	Petroleum ether
Diethyl ether	2-Propanol
Ethyl acetate	Sec-butyl alcohol
Ethyl alcohol	Tert-butyl alcohol
Heptane	Tetrahydrofuran

Hexane

Xylene

11.3.3 Disposal of Chemicals Down the Sink or Sanitary Sewer System:

Very few chemical wastes produced in laboratories are acceptable for disposal down the sink or sanitary sewer system. The Jefferson County Sewer Use/Pretreatment Ordinance establishes uniform requirements for all users of the wastewater treatment system for Jefferson County. Many chemicals can interfere with the proper function of the treatment facility and can render them unable to comply with state and federal regulations under the Clean Water Act of 1977.

Generators of laboratory waste are advised to exercise caution with respect to sink disposal of chemical wastes. In general, small-scale research activities (100 ml or less) of certain types of water soluble, non-toxic and non-flammable chemicals may be poured if they have been approved by the Chemical Safety Director. It is recommended that such materials be disposed of through the Department of Occupational Health and Safety, even in small quantities.

11.3.4 Substitution:

Whenever possible, it is desirable to substitute non-hazardous, biodegradable chemicals for hazardous chemicals. Use of these chemicals will reduce the volume of hazardous waste generated. Examples of acceptable substitutes include:

- 1) Citric Acid based clearing solutions for xylene, benzene, and toluene containing reagents in histology laboratories.
- 2) Non-hazardous liquid scintillation cocktails for standard xylene and toluene based cocktails used in radioactive tracer studies.
- 3) Water based inks instead of solvent-based inks in printing operations.
- 4) Non-halogenated solvents in parts washers or other solvent processes.
- 5) Detergent and enzymatic cleaners can be substituted for sulfuric acid/potassium dichromate (chromerge)

cleaning solutions and ethanol/potassium hydroxide cleaning solutions.

- 6) Peracetic acid rather than formaldehyde in cleaning dialysis machines (the peracetic acid reacts with the organic material in the dialysis waste stream to produce a non-hazardous waste).

11.3.5 Neutralization and Deactivation:

Certain hazardous chemical wastes can be rendered non-hazardous by specific neutralization or deactivation laboratory procedures. Contact the Chemical Safety Director to see if the waste you generate is suitable for neutralization. Procedures for deactivating ethidium bromide are found in Appendix K.

11.3.6 Elimination of Non-hazardous Waste from Hazardous Waste:

The following items are not considered hazardous. They should be collected in disposable containers or plastic bags, clearly labeled as non-hazardous waste, and put in the wastebasket. All compounds identified by the two letter code "NH" are non-hazardous and should not be disposed of via the chemical waste program unless they are components of a mixture with hazardous materials or are suitable for chemical recycling.

Non-hazardous Waste

11.3.6.1 Organic Chemicals

Acetates: Ca, Na, NH₄, and K

Amino acids and their salts

Citric acid and salts of Na, K, Mg, Ca, and NH₄

Lactic acid and salts of Na, K, Mg, Ca, and NH₄

Sugars: Glucose, lactose, fructose, sucrose, maltose

11.3.6.2 Inorganic Chemicals

Bicarbonates: Na, K

Iodides: Na, K

Borates: Na, K, Mg, Ca

Oxides: B, Mg, Ca, Al, Si, Fe

Bromides: Na, K

Phosphates: Na, K, Mg, Ca, NH₄

Carbonates: Na, K, Mg, Ca

Silicates: Na, K, Mg, Ca

Chlorides: Na, K, Mg, Ca
Sulfates: Na, K, Mg, Ca, NH₄
Fluorides: Ca

11.3.6.3 Laboratory Materials

Chromatographic adsorbents
Filter paper without hazardous chemical residue
Non-contaminated glassware
Rubber Gloves

11.3.7 Solvent Recycling

The Department of Occupational Health and Safety currently recycles xylene and alcohol from histology laboratories and sells the solvents back to departments at a reduced rate. Laboratories interested in participating in the program should contact the Hazardous Materials Facility Manager at 4-3797.

11.3.8 Teaching Laboratory Samples:

Teaching assistants will be responsible for the collection and disposal of all student samples from their laboratory section. No samples should be left in student drawers or out in the laboratory. If the sample is non-hazardous chemical waste and is water soluble, it can be washed down the sink. The vial should be handled as described below. If the sample is not water soluble, it can be left in the vial and placed in a separate can or plastic bag, clearly labeled as non-hazardous solid waste, and put in the wastebasket.

If the student sample is hazardous chemical waste, the sample vial should be emptied into an appropriately sized container obtained from the stockroom. The waste should then be evaluated for in-lab reduction procedures, packed, and labeled as described in this manual. The empty vials should be placed in a plastic bag, clearly labeled as non-hazardous waste, and placed in the wastebasket.

11.4 Yellow Barrel and Chemotherapy Waste

Certain toxins, carcinogens, or chemicals causing reproductive hazards are not regulated by EPA but do pose significant hazard to the environment or those working with them. These must be disposed of by incineration. Since most of the medical waste is microwaved, waste requiring incineration is placed in yellow

barrels rather than the traditional red medical waste barrel. Examples of carcinogens, reproductive toxins, or hazardous drugs include, but are not limited to:

Mitomycin

Cyclophosphamide

BRDU

DMBA

Streptozotocin

Ethidium bromide

Select agent toxins

MNU

Chemicals of unknown toxicity

Consult with Chemical Safety (4-2487) for disposal of other carcinogens, select agent toxins, reproductive toxins, or hazardous drugs.

11.4.1 Hospital Areas

All items potentially contaminated with chemotherapy agents must be disposed of in approved containers (Chemogators®) obtained from Hospital Materials Management. Containers should be placed in each room where chemotherapy is administered. Used IV bags, tubing, needles, gowns, and waste generated during a spill clean-up involving chemotherapy agents are placed in the containers. These containers are picked up with medical waste.

11.4.2 Non-Hospital Areas

Items that are or contain mutagens, carcinogens, teratogens, or chemotherapy agents should be placed in yellow barrels for incineration. This includes chemicals, tissue and animal specimens, and other non-sharp contaminated materials. Sharps (needles, blades, glass) should be disposed of in rigid Chemogator® type containers. Yellow barrels are obtained from the Hazardous Materials Facility. Chemogators® may be obtained from Hospital Material Management or from laboratory equipment suppliers. Pick-up of yellow barrel waste should be arranged with the Hazardous Materials Facility.

11.5 Hazardous Waste Disposal

The University of Alabama at Birmingham is required to comply with federal and state regulations regarding the packing, labeling, and transport of hazardous materials. Before contacting the Hazardous Materials Facility for waste removal, the following procedures must be completed. Improperly packed or labeled waste cannot be the Waste

11.5.1.1 Containers:

Collect each chemical waste in a separate screw-top container. Do not mix waste streams. Use the smallest container size to match the amount of chemical waste generated. The container the chemical was originally shipped in is an ideal waste collection container (if it is an appropriate size). All waste containers must be tightly capped. Each container must be labeled as to chemical content. For mixtures, give approximate percentages of each chemical compound. Milk jugs are not acceptable for chemical storage. If using a container that originally contained another chemical completely remove the original label prior to relabeling.

Leave a 10% headspace when filling chemical waste collection containers.

11.5.1.2 Shock Sensitive and Water Reactive Compounds and Lecture Bottles:

Shock sensitive and water reactive compounds and lecture bottles require special handling. These compounds are listed in Appendix B of this manual. When dealing with these compounds, call the Hazardous Materials Facility (4-3797) for special instructions. These materials should always be packed separately from other chemicals.

11.5.1.3 Packing Filled Containers in Boxes:

Chemicals that have the potential to react with each other should not be packed in the same box.

11.5.1.3.1 Determine the packing hazard class for each chemical waste. Classes are listed in Appendix C. When determining the class

for a mixture of chemicals, reactivity has priority over toxicity. If you have difficulty determining the packing class of a mixture, call the Hazardous Materials Manager (4-3797).

11.5.1.3.2 Segregate the wastes according to the hazard class and pack them into cardboard boxes. Do not pack different classes in the same box. Place dividers and shock absorbing materials (vermiculite) in between the containers.

11.5.1.3.3 When packing dry chemicals, the total weight should not exceed 50 lbs (22 Kg). When packing 4L bottles no more than four (4) glass bottles or six (6) plastic bottles should be placed in a box.

11.5.1.3.4 Boxes must be large enough to completely close over the tops of the containers. Boxes with bulging tops will not be picked up.

11.5.1.3.5 Boxes should be taped closed before pick-up with the exception of those containing picric acid. These must be left open so that facility personnel can verify that the material is wet enough for safe transport.

11.5.2 **Step Two:** Completing the Manifest

The label for the chemical waste is called a packing manifest. Hazardous chemical and universal wastes require manifests for disposal. A manifest must be completed and attached to each box. These may be obtained from OH&S or the OH&S website. Laboratory personnel need to complete the manifest by following the directions below and using the information provided in the Appendices.

11.5.2.1 Laboratory Information:

Fill in the generator name (i.e. principal investigator, lab director), telephone number, department, building, room number, and the date.

11.5.2.2 Waste Information:

Each container must have its contents identified on the manifest.

Non-specified chemical waste items are extremely difficult for hazardous material personnel to handle. Good laboratory record keeping and labeling of all chemicals and chemical wastes prevents unknown waste items. If you have a non-specified waste item, call the Hazardous Materials Manager for assistance (4-3797).

Any chemical material that is potentially recyclable should not be contaminated with other chemicals for disposal. Where appropriate, note on the manifest if material is unopened.

11.5.2.3 The generator should check the information on the manifest, sign his or her name, and attach it to the corresponding box.

11.5.3 **Step Three:** Chemical Waste Removal

To have chemical waste removed, mail the top copy of the manifest to the address below.

HAZARDOUS MATERIALS FACILITY (HMF)
221 14th Street South
UAB Campus Mail 0001

Attach one copy to the box and retain a copy for the laboratory records. Specify where the waste is to be picked up. Ensure that HMF personnel will have access to the area where the waste is held for pick-up. If your waste is not picked up in a reasonable period of time, call 4-3797 to inquire about the delay. Any incomplete or improperly completed manifest will be returned to the generator with an explanation for its return.

12. UNIVERSAL WASTE

UAB is a large quantity handler of Universal Waste. This means that the institution stores more than 5000 kg or 11000 lbs of the materials listed below. Items classified as Universal Waste are reported to the Alabama Department of Environmental Management under 8700-20.

Batteries

Pesticides

Fluorescent tubes

Mercury containing devices

Ballasts (Ballasts are not generally treated as Universal Waste, but the contract UAB has with the recycling company requires that they be managed as such.)

Containers of Universal Waste must be labeled with the name of the material, and date of accumulation and the address of the generating facility. The HMF stocks appropriate labels that can be completed by those packing the waste. A manifest must be completed as with hazardous waste. Directions for completing the Universal Waste Manifest are found on the back of the form.

When managing Universal Waste it is critical not to separate mercury from thermometers, manometers and other mercury containing devices. Doing so generates a hazardous mercury waste. The same is true of lead acid batteries. The acid must not be drained. If separated, the acid becomes a hazardous waste and the person draining the battery is permanently responsible for the hazardous waste generation.

Each type of universal waste should be boxed separately. Pesticides should be packed with other pesticides, not with ballasts. Batteries of the same type but different sizes may be packed together. AA and D dry cell batteries may be placed in the same box; however, NiCad and lithium batteries should be boxed separate from one another.

12.1 Completing the Universal Waste Manifest

A manifest must be completed and attached to each box. These may be obtained from OH&S or the OH&S website. Personnel need to complete the manifest by following the directions below.

12.1.1 Laboratory Information: Fill in the generator name (i.e. maintenance supervisor, chemical safety coordinator), telephone number, department, building, room number, and the date.

12.1.2. Waste Information:

Each container must have its contents identified on the manifest.

Select all types of materials to be picked up

Describe the contents as liquid or solid and specify the number of pounds of each type of item.

List the number and type of container. Container types include cardboard box (BF) and cardboard drum (DF). Bulbs should be packed to avoid breakage in their original containers or in the special recycling drums. Batteries, thermostats and containers of pesticides should be placed in sturdy cardboard boxes.

- 12.1.3 The generator should check the information on the manifest, sign his or her name, and attach it to the corresponding container. To have universal waste removed, mail the top copy of the manifest to the address below.

HAZARDOUS MATERIALS FACILITY (HMF)
221 14th Street South
UAB Campus Mail 0001

Attach one copy to the box and retain a copy for the department records. Specify where the waste is to be picked up. Waste containers should be stored in areas where they will not be damaged by inclement weather.

Ensure that HMF personnel will have access to the waste holding area. If your waste is not picked up in a reasonable period of time, call 4-3797 to inquire about the delay.

Appendix A -- Glossary

Acute: An adverse effect with symptoms of high severity coming quickly to a crisis.

Alabama Department of Environmental Management (ADEM): The state agency with direct oversight of hazardous material management at UAB.

Carcinogen: A substance capable of causing cancer.

Chronic: An adverse effect with symptoms that develop slowly over a long period or that frequently recur.

Department of Occupational Health and Safety (DOHS): The department which provides technical support for the operation of the UAB Hazardous Materials Facility, as well as the UAB Chemical Safety and Waste Management Program. This department also establishes health and safety standards to protect visitors and employees of UAB.

Department of Transportation (DOT): The federal agency responsible for policies and procedures governing the transport of materials, including hazardous chemical wastes.

Environmental Protection Agency (EPA): The federal agency responsible for enforcement of policies and procedures governing the generation, handling, and disposal of hazardous chemical waste.

Flash Point: The minimum temperature at which a material gives off vapor within a test vessel in sufficient concentration to form an ignitable mixture with air near the surface of the material.

Generator: A person or group within UAB, which produces chemical waste.

Hazardous Chemical Waste: Any discarded chemical of a solid, liquid, or gaseous form that is defined according to government regulations as:

- a) Corrosive: A material that causes visible destruction or irreversible alterations in human skin at the site of contact. Corrosives have a pH < 2 or > 12.5.
- b) Flammable: For the purposes of the chemical waste program, a material or mixture of materials which has a flash point (see above) of less than 140°F, is considered flammable.
- c) Irritant: A non-corrosive material that causes a local reversible injury to a biological membrane at the site of contact (e.g., chlorinated hydrocarbons, lachrymators).

Appendix A -- Glossary

- d) Oxidizer: A material that yields oxygen readily to stimulate the combustion of organic matter. The elemental halogens are also included in this class of compounds.
- e) Poison: A material that presents a health hazard through short term or chronic exposure, either orally, or through inhalation or skin absorption.
- f) Reactive: A substance that reacts violently with water or air to produce toxic gases or explosive mixtures; substances that are unstable or explosive.

Laboratory Scale: Work with chemicals that can easily and safely be manipulated by one person excluding the commercial production of chemicals for sale.

Laboratory Use: A workplace where relatively small quantities of hazardous chemicals are used on a non-production basis

Licensed Hazardous Waste Disposal Site: A facility that is specifically designed and engineered to dispose of or store hazardous chemical wastes.

Manifest: A form used for identifying and shipping hazardous materials. The manifest accompanies hazardous chemical waste from the point of generation to final disposal. The generator is responsible for completing the manifest properly.

Material Safety Data Sheet (MSDS): Safety and health information, required to be supplied by the chemical manufacturer with the purchase of each new chemical or chemical product containing hazardous constituents.

Mutagen: A substance that is capable of changing cells in such a way that future cell generations are affected. Mutagenic substances are usually considered suspect carcinogens.

Permissible Exposure Limit (PEL): The legally allowed concentration in the workplace that is considered a safe level of exposure for an 8-hour work shift, 40 hours per week. These values are established by the Occupational Safety and Health Administration (OSHA) in 29 CFR 1910.

Select Agent: a microorganism, (virus, bacterium, fungus, rickettsia) or toxin listed in Appendix A of 42 CFR 72 The term also includes (1) genetically modified microorganisms or genetic elements from organisms on Appendix A, shown to produce or encode for a factor associated with a disease, and (2) genetically modified microorganisms or genetic elements that contain nucleic acid sequences coding for any of the toxins on Appendix A, or their toxic subunits.

Appendix A -- Glossary

TCLP (Toxicity Characteristic Leaching Procedure): The EPA test used to determine the leachability of toxic constituents into the environment.

Teratogen: A substance that is capable of causing deformity in newborns if a significant exposure exists during pregnancy.

Threshold Limit Value (TLV): The amount of exposure recommended for an employee in a normal 8-hour day for a 40-hour workweek. These values are recommended by the American Conference of Governmental Industrial Hygienists (ACGIH) but are not legal exposure limits.

Universal Waste: Universal wastes are hazardous wastes commonly generated by households, businesses, and industries. EPA designates pesticides, batteries, fluorescent bulbs, and thermostats as universal wastes. Regulations for handling these wastes are in general less stringent than if they were managed as hazardous wastes.

Appendix B – Highly Reactive Compounds

These compounds require special handling. Call the Hazardous and Regulated Materials Manager for special instructions. A partial list of these compounds is given below.

Shock Sensitive Compounds -- These compounds may explode if subjected to friction or shock:

- Acetylides
- Azides
- Diazo compounds
- Diethyl and isopropyl ether (when peroxides are present)
- Halamines
- Nitro compounds
- Nitrocellulose
- Nitrogen triiodide
- Nitroso compounds
- Organic nitrates
- Organic peroxides
- Perchlorate salts (especially those of heavy metals such as ruthenium and osmium)
- Peroxidizable chemicals
- Picric acid and picrate salts
- Polynitroaryl compounds
- Powdered metals

Water Reactive Compounds -- These materials may react violently with water:

- Alkali metals (Na, Li, K,)
- Alkyl lithium compounds (e.g. butyl lithium)
- Anhydrous aluminum chloride
- Boron trifluoride
- Chlorosulfonic acid
- Grignard reagents
- Metal hydrides (Li, Al, K, Na, Ca, LiAl)
- Nitric acid above 40% solution
- Peroxidizable chemicals
- Phosphorus oxychloride
- Phosphorus pentoxide
- Silanes (e.g. hexamethyl disilane)
- Sulfuryl chloride
- Thionyl chloride
- Acyl halides
- Anhydrous metal halides (Al, As, Fe, P, S, Sb, Sn, Ti)

Appendix B – Highly Reactive Compounds

Peroxide Forming Compounds

Organic peroxides are a dangerous fire hazard if allowed to react with reducing agents. They are powerful oxidizers and are a severe explosion hazard when shocked, exposed to heat, or if they undergo a spontaneous chemical reaction. Upon contact with some reducing agents, explosions can occur. Many peroxides commonly handled in laboratories are far more sensitive to shock than most primary explosives (e.g. TNT). Many laboratory chemicals can form peroxides, particularly when exposed to air. Containers used for storage of peroxidizable compounds or retention of materials that become hazardous upon prolonged storage shall be limited to a maximum of six months after opening. Containers must then be disposed of in a safe manner. All opened containers of such materials should be tested every three months for peroxides.

Peroxidizable materials must be labeled upon receipt. The date of receipt and the date when the container was opened must be prominently displayed.

Sample Peroxidizable Compound Label

PEROXIDIZABLE COMPOUND	
NAME	_____
DATE RECEIVED	_____
DATE OPENED	_____
DATE TESTED	_____
NEGATIVE	_____ POSITIVE _____
IF TEST IS NEGATIVE PRODUCT MAY BE USED FOR 3 MORE MONTHS	

Peroxide test strips, which can be used to demonstrate the presence or absence of peroxides, are available from Fisher Lab Safety Supply and other distributors of general chemical supplies. If no peroxides are detected, the container label should be marked to indicate the absence of peroxides and the date of the test. The material can then be retained for an additional three months. If peroxides are detected the Department of Occupational Health & Safety should be notified immediately!

Appendix B – Highly Reactive Compounds

The following are particularly susceptible to peroxide formation and should be retained a maximum of *6 months after receipt* or *three months after opening*, whichever occurs sooner (unless stabilized, in which case the six-month after opening rule will apply):

- Cyclohexene
- Cyclooctene
- Diethyl ether
- Isopropyl ether
- p-Dioxane
- Sodium amide
- Tetrahydrofuran

Note: Petroleum ether is not an ether but is a mixture of hydrocarbons of the methane series.

The following should be retained a maximum of *12 months after receipt* or *6 months after opening*:

- Acrylonitrile
- Butadiene
- Chlorotrifluoroethylene
- Tetrafluoroethylene
- Vinyl chloride
- Vinyl ethers
- Vinylidene chloride

The following materials may be subject to peroxidization. They should be dated upon receipt and be kept *no longer than 24 months*.

Peroxide Hazard by Concentration (As the ratio of product to peroxide concentration decreases, the hazard due to the peroxide increases.)

- Acetal
- Decahydronaphthalene (Decalin)
- Diacetylene
- Dicyclopentadiene (Tetralin)
- Diethylene glycol dimethyl ether (Diglyme)
- Dimethyl ether
- Ethylene glycol
- Tetrahydronaphthalene

Hazardous Due to Peroxide Initiation of Polymerization

Appendix B – Highly Reactive Compounds

Acrylic acid
Chloroprene
Methyl acetylene
Methyl methacrylate
Styrene diacetylene
Vinyl acetate
Vinyl pyridine

Other highly reactive compounds:

Compounds Containing the Following in their Name or Formula

Acetylide	-C≡C
Azide	-N=N=N-
Bromate	-BrO ₃
Chlorate	-ClO ₃
Chlorite	-ClO ₂
Diazo	-N=N-
Halamine	X-NH ₂ , X is any Halogen (e.g. Cl, Br, I, F)
Iodate	-IO ₃
Nitrate	-NO ₃
Ozonide	-O ₃
Perchlorate	-ClO ₄

Appendix C – Chemical Packing Codes

CHEMICAL WASTE REGISTRY The Chemical Packing Code (CPC) characterizes the primary hazard associated with each material. The first two digits of the CPC are designed to distinguish which materials can be packed together.

When packaging materials for disposal, each box must include only materials within one packing code.

- (02) CORROSIVE BASES
CB -- Bases (packed together and separate from acids)
- (03) CORROSIVE ACIDS
CA -- Inorganic acids (including halo-organic acids) and organic acids, acid anhydrides and acid chlorides (packed together and away from oxidants)
- (07) COMPRESSED GASES
CG -- Compressed gases and liquefied compressed gases
- (08) FLAMMABLE LIQUIDS
FL -- General organic solvents (not to be packed with oxidants and corrosives) and oils used for heat recovery
- (09) FLAMMABLE SOLIDS
FS
- (10) TOXIC ORGANICS
TX -- Liquid irritants (lachrymators, etc.), halogenated organics (non-flammable), solid irritants, organic dyes, and stains
- (11) TOXIC INORGANICS
TX -- Cyanide
Heavy metals
- (12) ORGANIC PEROXIDES
OX -- Organic peroxides
- (14) WATER SENSITIVE
WS
- (15) SHOCK SENSITIVE
SS
- (16) OXIDIZER NA
NA -- Nitric acid packaged by itself
- (17) OXIDIZER (General)
OX -- General oxidizers (permanganates, perchlorates, etc.)

Appendix C – Chemical Packing Codes

- (18) OXIDIZER SC
SC -- Sulfuric and chromic acids (packed only with each other)
- (19) NON HAZARDOUS
NH -- Non-hazardous materials (sugars, amino acids, etc.)

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Aatrex	10TX
Abate	10TX
Acenaphthene	10TX
Acepromazine maleate	10TX
Acetal ^V	08FL
Acetaldehyde	08FL
Acetaldehyde ammonia trimer	09FS
Acetaldehyde sodium bisulfite	10TX
Acetaldoxime	08FL
Acetamide	10TX
Acetamidine hydrochloride	10TX
Acetamidobenzaldehyde, p-	10TX
Acetamidobenzoic acid, p-	03CA
Acetamino-1,3-dimethylbenzene, 4-	10TX
Acetaminophen (2-Hydroxyacetanilide)	10TX
Acetanilide	10TX
Acetic acid	03CA
Acetic acid:methanol 50/50	08FL
Acetic anhydride	03CA
Acetoacetanilide	10TX
Aceto-aceto-toluidide	10TX
Acetol (Hydroxyacetone)	08FL
Acetonaphthone, 2'-	10TX
Acetone	08FL
Acetone sodium bisulfite	10TX
Acetonedicarboxylic acid, 1,3-	03CA
Acetonitrile	08FL
Acetophenetidin	10TX
Acetophenol	10TX
Acetophenone	08FL
Acetovanillone	10TX
Acetoxime	10TX
Acetyl bromide	14WS
Acetyl chloride	14WS
Acetyl ferrocene	10TX
Acetyl fluoride	14WS
Acetyl pyridine, 3-	10TX
Acetyl-10-chlorophenarsazine, 5-	10TX
Acetyl-2-phenyl hydrazine, 1-	10TX
Acetyl-2-thiourea	10TX
Acetyl-alpha-D-glucosamine, N-	10TX
Acetylaminofluorene, 2-	10TX
Acetylanthranilic acid, N-	10TX
Acetyl-beta-methylcholine chloride	10TX
Acetylchlorophenarsazine, N-	10TX

*Explosion hazard

#Highly reactive

^VMay form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Acetylcholine bromide	10TX
Acetylcholine chloride	10TX
Acetylcholine iodide	10TX
Acetylcyclohexanone, 2-	08FL
Acetylene	07CG
Acetylglycine	10TX
Acetylimidazole, 1-	10TX
Acetylneuraminic acid	10TX
Acetylpenicillamine, N-	10TX
Acetylphenoxylacetic acid, p-	03CA
Acetylpiperidine, 1-	10TX
Acid phosphatase	10TX
Acid potassium phthalate	10TX
Acotinic acid	10TX
Acridine	10TX
Acridine orange	10TX
Acriflavine hydrochloride	10TX
Acrolein, inhibited	08FL
Acrylamide	10TX
Acrylic acid	08FL
Acrylonitrile [∇]	08FL
Adenine	19NH
Adenine sulfate	19NH
Adenosine	19NH
Adenosine triphosphate	19NH
Adenosine-3'-5'-cyclic phosphate	19NH
Adenosine-5'-diphosphate	19NH
Adenosine-5'-triphosphate	19NH
Adenosyl-l-methionine, 5-	19NH
Adenylylimidophosphate, 5'-	10TX
Adenylyl-uridine	19NH
Adipamide	10TX
Adiphenine hydrochloride	10TX
Adipic acid	03CA
Adiponitrile (1,4-dicyanobutane)	08FL
Adipoyl acid	03CA
Adipoyl chloride	14WS
Adrenalin hydrochloride	10TX
Aflatoxin B	10TX
Agar	19NH
Agarose	19NH
Alanine	19NH
Alcian blue	10TX
Alcohol dehydrogenase	19NH
Aldicarb	10TX
Aldol	08FL
Aldrin	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Alizarin	10TX
Alizarin red	10TX
Alizarin red S monohydrate (3,4, dihydroxy-9,10-dioxo-2 anthracene sulfonic acid, sodium salt)	10TX
Alizarin sodium sulfonate	10TX
Alizarin yellow	10TX
Alizarine sodium monosulfate	10TX
Alkaline phosphatase	19NH
Allethrin	10TX
Allopurinol	10TX
Alloxan	10TX
Alloxan monohydrate	10TX
Allyl acetate	08FL
Allyl alcohol	08FL
Allyl ether	08FL
Allyl isothiocyanate	08FL
Allyl phthalate	10TX
Allyl sulfide	08FL
Allylphenol, o-	08FL
Alpha terpineol	10TX
Alphazurine blue	10TX
Alpine hydride, S-#	14WS
Alpine-borane, S-	15SS
Aluminum acetate	10TX
Aluminum acetylacetonate	10TX
Aluminum ammonium sulfate	11TX
Aluminum chloride	19NH
Aluminum chloride hexahydrate	19NH
Aluminum ethoxide	10TX
Aluminum hydroxide	02CB
Aluminum isopropoxide	14WS
Aluminum nitrate	17OX
Aluminum oxide	11TX
Aluminum oxide, acidic	03CA
Aluminum oxide, basic	02CB
Aluminum phosphate	11TX
Aluminum phosphide	14WS
Aluminum potassium sulfate	11TX
Aluminum propoxide	14WS
Aluminum silicate	11TX
Aluminum sodium sulfate	11TX
Aluminum stearate	10TX
Aluminum sulfate	11TX
Aluminum sulfide	02CB
Aluminum, metallic, powder	14WS
Aluminum, metallic, sticks	11TX
Amaze 6 (isofenphos, or oftanol)	10TX

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Amberlite	10TX
Amberlite acidic	03CA
Amberlite basic	02CB
Amberlite IRA-68	10TX
Amine, 2,4-D	10TX
Amino anthracene, 1-	10TX
Amino anthracene, 2-	10TX
Amino naphthol hydrochloride	10TX
Amino tetrazole	09FS
Amino thiazole, 2-	10TX
Amino-1,2,4-triazole, 3-	10TX
Amino-1-naphthalenesulfonic acid, 4-	10TX
Amino-1-naphthol-3,6-disulfonic acid, 8-	10TX
Amino-1-propanol, 3- (propanolamine)	08FL
Amino-2-(hydroxymethyl)-1,3-propane, 2-	10TX
Amino-2-(hydroxymethyl)-1,3-propanediol, 2-	10TX
Amino-2,3-dihydro-1,4-phthalazinedione, 5-	10TX
Amino-2-4,7-pteridinediol	10TX
Amino-2-hydroxymethyl-1,3-propanediol, 2-	10TX
Amino-2-methyl-1,3-propandiol, 2-	10TX
Amino-2-methyl-1-propanol, 2-	10TX
Amino-2-methylpropanol	08FL
Amino-2-naphthol sulfonic acid, 5-	03CA
Amino-2-naphthol-4-sulfonic acid, 1-	03CA
Amino-2-propanol, 1-	10TX
Amino-3-methyl pyridine, 2- (2-amino-3-picoline)	02CB
Amino-4,2,1,3 benzothiazole	10TX
Amino-4-chlorophenol, 2- (p-chloro-o-aminophenol)	10TX
Amino-4-methyl pyridine, 2- (2-amino-4-picoline)	10TX
Amino-4-methylpentane, 2-	08FL
Amino-4-nitrophenol, 2-	10TX
Amino-5-nitrophenol, 2-	10TX
Amino-6-bromobenzothiazole, 2-	10TX
Amino-6-mercaptapurine, 2-	10TX
Amino-6-methylpyridine, 2- (2-amino-6-picoline)	10TX
Amino-9-ethylcarbazole, 3- (ACE)	10TX
Aminoacetophenone, p-	10TX
Aminoacridine hydrochloride, 9-	10TX
Aminoacridine, 9-	10TX
Amino-anthroquinone	10TX
Aminoantipyrine, 4-	10TX
Aminoazotoluene, o-	10TX
Aminobenzaldehyde	10TX
Aminobenzene sulfonamide	10TX
Aminobenzimidazole	10TX
Aminobenzoic acid, all isomers	10TX
Aminobenzothiazole, 2-	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Aminobenzotrifluoride	10TX
Aminobenzoyl glycine, N-(4-	03CA
Aminobutyric acid, 2-	10TX
Aminobutyric acid, 4- (GABA)	19NH
Aminocaproic acid, 6-	19NH
Aminochrysene	10TX
Aminocyclopentane carboxylic acid	10TX
Aminoethanethiol hydrochloride	10TX
Aminoethanol hydrochloride (Ethanamine HCl)	10TX
Aminoethanol, 2-	08FL
Aminoethyl pyridine	10TX
Aminoethylamino)ethanol, 2-(2-	02CB
Aminoethylaminoethanol	02CB
Aminoethylisothiuronium bromide, 2-	10TX
Aminoethylpiperidine	02CB
Aminoguanidine bicarbonate	10TX
Aminoguanidine sulfate	10TX
Aminohippuric acid, p-	10TX
Aminohomopiperidine, N-	08FL
Aminoisobutyric acid, alpha-	03CA
Aminomethanol, 2-	08FL
Aminomethyl)-3-isoxazolol, 5-(10TX
Aminomethylphosphonic acid	10TX
Aminonaphthol	10TX
Aminonaphthol sulfonic acid	03CA
Amino-N-caproic acid, DL-alpha- (Norleucine)	03CA
Amino-N-caproic acid, epsilon- (6 amino N-hexanoic acid)	03CA
Amino-N-valeric acid, DL-alpha- (Norvaline)	03CA
Aminopenicillanic acid	10TX
Aminophenol (Hydroxyaniline)	10TX
Aminophenol, all isomers	10TX
Aminophenyl sulfone, 3-	10TX
Aminophenyl-4,2,6-methylbenzothiazole	10TX
Amino-phenylethanol mandylate, 2-	10TX
Aminopropionitrile, beta-	10TX
Aminopropyl)morpholine, N-(3-	10TX
Aminopropyltriethoxysilane, 3-	14WS
Aminopropyltriethoxysilane, gamma-	14WS
Aminopterin	10TX
Aminopyrene	10TX
Aminopyridine, 2-	10TX
Aminopyridine, 4-	10TX
Aminopyrimido pyrimidine	10TX
Aminopyrrolidine hydrochloride	10TX
Aminosalicylic acid, p-	10TX
Amino-terbinol	10TX
Amino-tetramethylpiperidinyloxy	15SS

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Aminotetrazole	10TX
Aminothiophenol, o-	08FL
Aminothiophenol, p-	10TX
Ammonia, anhydrous	07CG
Ammonium acetate	10TX
Ammonium benzoate	10TX
Ammonium bicarbonate	11TX
Ammonium bisulfate	03CA
Ammonium bisulfite, solid	11TX
Ammonium borate	11TX
Ammonium bromide	19NH
Ammonium carbonate	19NH
Ammonium cerium (IV) sulfate	11TX
Ammonium chloride	11TX
Ammonium chromate	17OX
Ammonium citrate, dibasic	19NH
Ammonium dichromate	17OX
Ammonium ferricyanide	11TX
Ammonium fluoride	11TX
Ammonium formate	10TX
Ammonium hydrogen fluoride, solid	03CA
Ammonium hydroxide	02CB
Ammonium iodide	11TX
Ammonium metavanadate	11TX
Ammonium molybdate	11TX
Ammonium nitrate*	15SS
Ammonium oxalate	10TX
Ammonium peroxydisulfate	15SS
Ammonium persulfate	15SS
Ammonium phosphate dibasic	19NH
Ammonium phosphate monobasic	19NH
Ammonium picrate	10TX
Ammonium potassium tartrate	10TX
Ammonium purpurate	10TX
Ammonium pyrrolidine dithiocarbamate	10TX
Ammonium salicylate	10TX
Ammonium sulfamate	11TX
Ammonium sulfate	19NH
Ammonium sulfide	08FL
Ammonium sulfite	02CB
Ammonium tartrate	10TX
Ammonium thiocyanate	10TX
Ammonium thiosulfate	10TX
Ammonium valerate	10TX
Ammonium vanadate	11TX
Ammonium-1-pyrrolidine carbodithionate	10TX
Amobarbitol sodium	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Amphetamine sulfate	10TX
Amsonic acid	10TX
Amyl acetate	08FL
Amyl alcohol	08FL
Amyl alcohol, tert-	08FL
Amyl butyrate, N-	08FL
Amyl chloride, N-	08FL
Amyl iodide (1-Idopentane or N-amyl iodide)	10TX
Amyl nitrate	08FL
Amylamine, N-	08FL
Amylopectin	19NH
Amylphenol, o-(sec)-	08FL
Amylphenol, p-(tert)-	08FL
Anethole, trans-	08FL
Aniline (Phenylamine, Aminobenzene)	10TX
Aniline blue	10TX
Aniline hydrochloride	10TX
Aniline hydrogen phthalate	10TX
Aniline oil, liquid	08FL
Aniline sulfate	10TX
Anisaldehyde	08FL
Anisaldehyde, o-	08FL
Anisaldehyde, p-	08FL
Anisic acid, p-	10TX
Anisidine, all isomers	10TX
Anisole	08FL
Anisoyl chloride	14WS
Anthracene	10TX
Anthraldehyde hydrate	10TX
Anthranilic acid	10TX
Anthraquinone	10TX
Anthraquinone sulfonic acid, 2- sodium salt	10TX
Anthraquinonesulfonic acid, 2-	10TX
Anthrone	10TX
Antifoam A emulsion	10TX
Antimony	11TX
Antimony pentachloride	14WS
Antimony pentafluoride	14WS
Antimony potassium tartrate	11TX
Antimony trichloride	14WS
Antimony trioxide	11TX
Antimony trisulfide	14WS
Antipyrine	10TX
Antipyrine, 4-amino-	10TX
Anysyl alcohol (mixed isomers)	10TX
Aquasol 2 (contains xylene)	08FL
Arabinose, L-	19NH

*Explosion hazard

#Highly reactive

^vMay form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Araldite	08FL
Arecoline hydrochloride	10TX
Arginine hydrochloride	19NH
Arginine monohydrate, L-	19NH
Arginine monohydrochloride	19NH
Arginine, L-	19NH
Argon	07CG
Aromatic petroleum distillates	08FL
Arsanilic acid, o-	11TX
Arsanilic acid, p-	11TX
Arsenic acid solution	03CA
Arsenic acid, sodium salt	11TX
Arsenic pentoxide	11TX
Arsenic trichloride	14WS
Arsenic triiodide	03CA
Arsenic trioxide	11TX
Arsenic trisulfide	11TX
Arsenic, solid	11TX
Arsenous acid	17OX
Arsonic acid, methyl, monosodium salt	10TX
Asbestos	11TX
Ascaridole	15SS
Ascorbic acid	19NH
Asparagine hydrate, L-	19NH
Asparagine, L-	19NH
Aspartic acid	19NH
Atropine sulfate	10TX
Auramine O	10TX
Aurin tricarboxylic acid	03CA
Aurintricarboxylic acid ammonium salt	10TX
Azaguanine, 8-	10TX
Azaserine	10TX
Azelaic acid	10TX
Azo(bis)isobutyronitrile, 2,2-	15SS
Azobenzene	10TX
Azobis(2-methylpropionitrile), 2,2-	15SS
Azoene fast violet	10TX
Azoxybenzene	10TX
Azoxydianisole, 4,4'-	10TX
Azure A	10TX
Bacto-phenol red	10TX
Barbital	10TX
Barbituric acid	10TX
Barium	11TX
Barium acetate	10TX
Barium carbonate	11TX
Barium chlorate monohydrate	17OX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Barium chloride	11TX
Barium chromate	17OX
Barium cyanide	11TX
Barium diphenylamine sulfamate	11TX
Barium fluoride	11TX
Barium hydroxide	02CB
Barium metaborate monohydrate	11TX
Barium nitrate	17OX
Barium oxalate	11TX
Barium oxide	11TX
Barium peroxide, anhydrous [#]	17OX
Barium stearate	11TX
Barium sulfate	11TX
Barium sulfide	11TX
Barium titanate	11TX
Basic fuchsin	10TX
Batson's #17 blue pigment	10TX
Batson's #17 catalyst	10TX
Batson's #17 promoter	10TX
Batson's #17 red pigment	10TX
Bensulide (organophosphorus pesticide)	10TX
Bentazon	10TX
Bentonite	19NH
Benyl acetate	10TX
Benz c acridine	10TX
Benzal chloride	10TX
Benzaldehyde	08FL
Benzalkonium chloride	10TX
Benzamide	10TX
Benzanilide	10TX
Benzanthracene, 1,2-	10TX
Benzenamine	08FL
Benzene	08FL
Benzene sulfonic acid	03CA
Benzene sulfonyl chloride	03CA
Benzenediol, 1,3-	10TX
Benzenediol, 1,4-	10TX
Benzenhexacarboxylic acid	03CA
Benzenephosphonous acid (phenyl phosphonic acid)	10TX
Benzenesulfonamide	10TX
Benzenetetracarboxylic acid, 1,2,4,5-	03CA
Benzenethiol (thiophenol)	02CB
Benzenetricarboxylic acid hydrate, 1,3,5-	03CA
Benzenetricarboxylic acid, 1,2,4-	03CA
Benzethonium chloride	10TX
Benzhydrol	10TX
Benzidine	10TX

*Explosion hazard

[#]Highly reactive

^vMay form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Benzidine dihydrochloride	10TX
Benzidine hydrochloride	10TX
Benzil	10TX
Benzilic acid	10TX
Benzimidazole	10TX
Benzimide, bis-	10TX
Benzo a pyrene	10TX
Benzocaine	10TX
Benzoic acid	10TX
Benzoic acid, 4-hydroxy-3-methoxy-	03CA
Benzoic acid, sodium salt, p-hydroxymercuri	11TX
Benzoic anhydride	10TX
Benzoin	10TX
Benzoin oxime, alpha-	10TX
Benzonic acid	10TX
Benzonitrile	08FL
Benzophenone	10TX
Benzopyrrole, 2,3-	10TX
Benzoquinone	10TX
Benzothiazole	10TX
Benzotrichloride	08FL
Benzoyl alanine	19NH
Benzoyl chloride	14WS
Benzoyl peroxide [#]	15SS
Benzoylbenzoic acid, all isomers	10TX
Benzoyl-DL-alanine	19NH
Benzyl acetate	10TX
Benzyl acetoacetate	08FL
Benzyl alcohol	10TX
Benzyl benzoate	08FL
Benzyl bromide	03CA
Benzyl chloride	03CA
Benzyl chloroformate	03CA
Benzyl cyanide	08FL
Benzyl dimethylamine (BDMA)	02CB
Benzyl disulfide	10TX
Benzyl ether	10TX
Benzyl formate	10TX
Benzyl mercaptan	08FL
Benzyl salicylate	10TX
Benzyladenine, 6-	10TX
Benzylamine (Phenylmethyl amine)	02CB
Benzylchloromethyl ether	10TX
Benzyl dimethylamine	02CB
Benzylethylaniline, N, N-	08FL
Benzylhydroxylamine hydrochloride, o-	10TX
Benzylideneacetone	08FL

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Benzylisothiocyanate	10TX
Benzylmethanamine	08FL
Benzylthiocyanate	10TX
Benzylthiuronium chloride	10TX
Berberine hydrochloride hydrate	10TX
Beryllium	11TX
Beryllium carbonate	11TX
Beryllium chloride	11TX
Beryllium fluoride	10TX
Beryllium nitrate hydrate	17OX
Beryllium sulfate tetrahydrate	11TX
Betaine	10TX
Betaine HCl	10TX
BHT	10TX
Biacetyl	08FL
Bial's reagent (contains HCl, orcinol, ferric chloride); orcinol ferric chloride (5-methylresinol)	10TX
Bibenzyl	10TX
Bicine (N, N-dihydroxyethyl glycine)	02CB
Biebrich scarlet, sodium salt	10TX
Bilirubin	19NH
Bio-lyte	10TX
Bio-rad silver stain	10TX
Biphenyl	10TX
Biphenyl tetraamine, 3 3' 4 4'-	10TX
Bipyridine, 2,2'-	10TX
Biquinoline, 2,2'-	10TX
Bis 4-fluoro-3 nitrophenol sulfone	10TX
Bis(2-chloroethoxy)methane	08FL
Bis(2-chloroethyl)ether	08FL
Bis(2-chloroisopropyl)ether	08FL
Bis(2-ethyloxy) phthalate	10TX
Bis(5-phenyloxazol-2-yl)benzene,1,4-	10TX
Bis(chloromethyl)ether	08FL
Bis(dimethylamino)benzophenone, 4,4-	10TX
Bis(trifluoroacetoxy)iodobenzene	10TX
Bis-cyclohexanone oxaldihydrazone	10TX
Bismuth	11TX
Bismuth chloride	11TX
Bismuth chloride oxide	11TX
Bismuth hydroxide	02CB
Bismuth nitrate	17OX
Bismuth oxide	11TX
Bismuth subcarbonate	11TX
Bismuth subgallate	11TX
Bismuth subnitrate	17OX
Bismuth sulfate	11TX

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Bismuth trichloride	11TX
Bisphenol A	10TX
Bis-Tris	10TX
Biuret reagent	10TX
Borabicyclo[3.3.1]nonane, 9-	14WS
Borane tetrahydrofuran complex	14WS
Borax	19NH
Bordeaux	11TX
Boric acid	11TX
Borneol	10TX
Boron fluoride ether	03CA
Boron nitride	11TX
Boron oxide	11TX
Boron trichloride	07CG
Boron trifluoride	07CG
Boron trifluoride diethyl etherate (BF ₃ -ether complex)	14WS
Boron trifluoride-ethylamine complex	14WS
Boron trifluoride-methanol complex	14WS
Boron trifluoride-propanol complex	14WS
Boron tris (trifluoroacetate)	14WS
Bouin's solution	10TX
Bradykinin triacetate	10TX
Brassylic acid	10TX
BRIJ 35	10TX
Brilliant blue g	10TX
Brilliant blue r (acid blue 83)	03CA
Brilliant cresyl blue	10TX
Brilliant green	10TX
Bromocresol green	10TX
Brominal	10TX
Bromine	03CA
Bromo-2,6-dimethylphenol, 4-	10TX
Bromo-2-naphthyl-D-galactopyranoside, 6-	10TX
Bromo-2-naphthyl-D-glucuronide, 6-	10TX
Bromo-3-methyl butane, 1-	08FL
Bromo-3-phenylpropane, 1-	08FL
Bromo-4-nitrobenzene, 1-	10TX
Bromoacetaldehyde dimethylacetal	08FL
Bromoacetamide, N- (NBA)	10TX
Bromoacetanilide, 4'-	10TX
Bromoacetanilide, p-	10TX
Bromoacetic acid	03CA
Bromoacetone	08FL
Bromoacetophenone, 2-	10TX
Bromoacetophenone, alpha-	10TX
Bromoacetyl chloride	14WS
Bromoadenine, 8-	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Bromoadenosine triphosphate, 8-	10TX
Bromoadenosine, 8-	10TX
Bromoadenosine-3',5-cyclic monophosphate, 8-	10TX
Bromoaniline, all isomers	08FL
Bromobenzene	08FL
Bromobenzene sulfonylhydrazide	15SS
Bromobenzene sulfonyl chloride, p-	14WS
Bromobenzoic acid, all isomers	10TX
Bromobenzothiazole, 5-	10TX
Bromobenzyl bromide, p-	03CA
Bromobutane, 1-	08FL
Bromobutane, 2-	08FL
Bromocamphor-N-sulfonic acid ammonium salt, D-alpha-	10TX
Bromochlorobenzene, all isomers	08FL
Bromochloropropane (trimethylene chlorobromide)	10TX
Bromocresol purple	10TX
Bromocyclohexane, 3- (Cyclohexyl bromide)	08FL
Bromocyclopentane	08FL
Bromoethane	08FL
Bromoethyl benzene	08FL
Bromoethylphthalimide, beta-	10TX
Bromoform	10TX
Bromohexadecane	10TX
Bromohexane, 1-	08FL
Bromoisobutyric acid, 2-	03CA
Bromomethyl butane	08FL
Bromomethyl butene	10TX
Bromomethyl propane	08FL
Bromonaphthalene, alpha-	08FL
Bromonaphthyl glucopyranoside	10TX
Bromooctane	10TX
Bromopentane	08FL
Bromophenacyl bromide, p-	10TX
Bromophenol blue	10TX
Bromophenol, o-	08FL
Bromophenyl isocyanate, p-	14WS
Bromophenyl phenyl ether, 4-	10TX
Bromophenylacetonitrile, 2-	08FL
Bromophenyldiazine, hydrochloride, p-	10TX
Bromo-p-nitrotoluene, alpha	03CA
Bromo-p-phenylacetophenone, alpha-	10TX
Bromopropane, 1-	08FL
Bromopropane, 2-	08FL
Bromopropene (allyl bromide)	08FL
Bromopropionic acid, 2-	03CA
Bromo-p-tolunitrile, alpha-	02CB
Bromosalicylic acid, 5-	10TX

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Bromosuccinimide, N-	10TX
Bromothiophene, 2-	08FL
Bromothymol blue	10TX
Bromotoluene, alpha-	08FL
Bromoundecanoic acid, 11-	03CA
Bromphenol blue	10TX
Bromsulfalein	10TX
Brucine hydrate	10TX
Brucine sulfate	10TX
Brucine sulfate hydrate	10TX
Brucine, solid	10TX
Budget solve	08FL
Buffalo black nbr	10TX
Butadiene diepoxide	08FL
Butadiene monoxide	08FL
Butadiene sulfone	10TX
Butanal	08FL
Butane	07CG
Butane, 2-	07CG
Butanediol diglycidyl ether, 1,4-	02CB
Butanediol, all isomers	08FL
Butanedione monoxime	10TX
Butanedione, 2,3-	08FL
Butanedione-2-oxime, 2,3-	10TX
Butanethiol, 1- (butyl mercaptan)	08FL
Butanetriol	10TX
Butanoic acid	03CA
Butanol, 1- (butyl alcohol)	08FL
Butanone, 2-	08FL
Butaphene (dinitro-sec-butylphenol)	10TX
Butene, 2-methyl-2-	08FL
Butoben	10TX
Butopyronoxyl	10TX
Butoxyethanol, 2-	08FL
Butoxypolypropylene glycol	10TX
Butyl acetate	08FL
Butyl acrylate	08FL
Butyl alcohol	08FL
Butyl benzoate	10TX
Butyl butyrate	08FL
Butyl carbamate	10TX
Butyl cellosolve	08FL
Butyl chloride	08FL
Butyl ether	08FL
Butyl ethyl ether	08FL
Butyl formate	08FL
Butyl hydroperoxide, tert-	15SS

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Butyl isocyanate	14WS
Butyl lithium	14WS
Butyl methacrylate	08FL
Butyl methyl ether, tert-	08FL
Butyl PBD	10TX
Butyl peracetate, t-	08FL
Butyl perbenzoate, t-	170X
Butyl peroxide, t-#	08FL
Butyl peroxybenzoate, tert-	170X
Butyl phenol	10TX
Butyl phthalate, N-	10TX
Butyl sulfone	10TX
Butyl sulfoxide (dibutyl sulfoxide)	10TX
Butyl-4,6-dinitrophenol, 2-sec-	10TX
Butylamine	08FL
Butylamine, N-	08FL
Butylaniline, p-, N-(p-methoxybenzylidene)-	08FL
Butylated hydroxyanisole	10TX
Butylated hydroxytoluene	10TX
Butylbenzene, tert-	08FL
Butylcyclohexanone, 4-t-	10TX
Butyldiethanolamine, N, N-	08FL
Butyldimethylsilyl chloride, tert-(tert-butylchlorodimethylsilane)	08FL
Butyldisulfide	10TX
Butylhydroxytoluene (bht)	10TX
Butylmercaptan, tert-	08FL
Butylphenol	02CB
Butylphenoxy) isopropyl-2-chloroethyl sulfite, 2- (p-tert-	10TX
Butylthiophenol, 4-tert-	08FL
Butyn sulfate	10TX
Butyne-1,4-diol, 2-	09FS
Butyraldehyde	08FL
Butyramide, N-	10TX
Butyric acid	03CA
Butyric anhydride, N-	03CA
Butyrolactone, 4-	03CA
Butyrolactone, beta- (3-hydroxybutyric acid)	08FL
Butyronitrile	08FL
Butyryl chloride	14WS
Cacodylic acid	10TX
Cacodylic acid, sodium salt	10TX
Cadmium	11TX
Cadmium acetate	10TX
Cadmium acetate dihydrate	10TX
Cadmium bromide	11TX
Cadmium carbonate	11TX
Cadmium chloride	11TX

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Cadmium fluoride	11TX
Cadmium iodide	11TX
Cadmium nitrate	17OX
Cadmium oxide	11TX
Cadmium sulfate	11TX
Cadmium sulfide	11TX
Cadmium waste	11TX
Caffeine	10TX
Caffeine citrate	10TX
Caffeine salicylate	10TX
Calcein	10TX
Calcium acetate	19NH
Calcium arsenate, solid	11TX
Calcium carbide	14WS
Calcium carbonate	19NH
Calcium chloride	19NH
Calcium chromate	17OX
Calcium cyanamide, not hydrated	11TX
Calcium cyanide, solid	11TX
Calcium dichromate	17OX
Calcium fluoride	11TX
Calcium gluconate	19NH
Calcium hydride [#]	14WS
Calcium hydrochloride	19NH
Calcium hydroxide	02CB
Calcium hypochlorite	17OX
Calcium iodide	11TX
Calcium iodobenenate	11TX
Calcium nitrate	17OX
Calcium oxide	11TX
Calcium pantothenate	10TX
Calcium perchlorate	15SS
Calcium phenol sulfonate	10TX
Calcium phosphate	19NH
Calcium phosphide	14WS
Calcium propionate	10TX
Calcium sulfate (drierite)	19NH
Calcium sulfate dihydrate (gypsum)	19NH
Calcium sulfide	02CB
Calcium, metal	14WS
Calcon (sulfonic acid dye, contains zinc)	10TX
Calcon dye (calconcarboxylic acid)	03CA
Camphene	10TX
Camphor	10TX
Camphor sulfonic acid, D-	09FS
Camphor, D-	10TX
Camphor, DL-	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Camphoric acid, D-	10TX
Camptothecin	10TX
Canada balsam	08FL
Canon toner (petroleum solvent, methacrylate copolymer, carbon)	08FL
Caproic acid, N-	03CA
Caprolactam	10TX
Caprylic acid	03CA
Carbamazepine	10TX
Carbazole	10TX
Carbitol	08FL
Carbobenzoxy chloride	08FL
Carbocaine	10TX
Carbofuran	10TX
Carbon disulfide	08FL
Carbon monoxide (gas)	07CG
Carbon tetrachloride (tetrachloromethane)	10TX
Carbon trifluoride	10TX
Carbon, activated	19NH
Carbon, decolorizing	19NH
Carbonyl cyanide	14WS
Carbonyl fluoride	07CG
Carbonyl sulfide (gas)	07CG
Carbosorb (ammonium hydroxide)	02CB
Carbowax	19NH
Carboxymethoxylamine hemi-hydrochloride	10TX
Carboxyphenyl) chloromercury, (p-	11TX
Carboxypropyl disulfide	10TX
Carmine	10TX
Carnitine hydrochloride	10TX
Carotene	10TX
Carvacrol	10TX
Carvone	08FL
Casein	19NH
Catechol	10TX
Caustic soda	02CB
Cedarwood oil	10TX
Cellex-D	10TX
Cellobiose	19NH
Cellosolve	08FL
Cellulose acetate	09FS
Ceric (Cerium) ammonium sulfate	17OX
Cerium (III) sulfate octahydrate	11TX
Cerium (IV) oxide	11TX
Cerium (IV) sulfate	17OX
Cerium (IV) sulfate tetrahydrate	17OX
Cerium chloride	11TX
Cesium chloride	10TX

*Explosion hazard

#Highly reactive

^vMay form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Cesium nitrate	17OX
Cesium sulfate	11TX
Cetyl alcohol	10TX
Cetyltrimethylammonium bromide	10TX
Cevine	10TX
CHAPS	10TX
Chelating sepharose	19NH
Chelex 100 resin	19NH
Chloral	10TX
Chloral hydrate	10TX
Chloralose, alpha-	10TX
Chloramine-t	10TX
Chloramine-t hydrate	10TX
Chloranil	10TX
Chloranilic acid	10TX
Chlordane	10TX
Chloretone	10TX
Chlorine	07CG
Chlornaphazine	10TX
Chloro,5,2-nitroaniline	10TX
Chloro-1,1-diethoxypropane, 3-	08FL
Chloro-1-naphthol, 4-	10TX
Chloro-2,3-epoxypropane, 1-	08FL
Chloro-2,4-dinitrobenzene, 1-	10TX
Chloro-2-butene, 1-	08FL
Chloro-2-methyl propane, 1-	08FL
Chloro-2-methyl propane, 2-	08FL
Chloro-2-methylaniline, 5-	08FL
Chloro-2-methylphenol, 4-	10TX
Chloro-2-methylpropane, 2-	08FL
Chloro-2-nitroaniline, 4-	10TX
Chloro-2-nitrobenzene, 1-	10TX
Chloro-2-propanone	08FL
Chloro-3,5-dimethylphenol, 4-	10TX
Chloro-4,4,5,5-tetramethyl-1,3,2-dioxarsolane, 2-	10TX
Chloro-4-nitroaniline, 2-	10TX
Chloro-4-nitrobenzene, 1-	10TX
Chloroacetaldehyde	08FL
Chloroacetaldehyde diethyl acetal	08FL
Chloroacetaldehyde dimethyl acetal	08FL
Chloroacetamide	10TX
Chloroacetic acid	03CA
Chloroacetic anhydride	03CA
Chloroacetone	08FL
Chloroacetone, mono-	08FL
Chloroacetophenone, alpha-	10TX
Chloroacetophenone, p-	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Chloroacetyl chloride	14WS
Chloroadenosine hemihydrate, 2-	10TX
Chloroaniline, all isomers	10TX
Chlorobenzaldehyde	08FL
Chlorobenzamide	10TX
Chlorobenzene	08FL
Chlorobenzene sulfonic acid sodium salt, p-	03CA
Chlorobenzene-d5	08FL
Chlorobenzenesulfonamide, 4-	10TX
Chlorobenzenethiol	10TX
Chlorobenzoic acid, o- (nickel II salt)	10TX
Chlorobenzoic acid, p-	10TX
Chlorobenzothiazole	10TX
Chlorobenzotriazole	10TX
Chlorobenzotrifluoride, 2-	08FL
Chlorobenzoyl chloride, p-	14WS
Chlorobutane, 1-	08FL
Chlorobutane, 2-	08FL
Chlorobutyryl chloride	10TX
Chlorocyclohexane	08FL
Chlorodibenzylphosphonate	10TX
Chlorodifluoroacetic acid	03CA
Chlorodimethylsilane	14WS
Chloroethane (ethyl chloride)	08FL
Chloroethanol, 2-	08FL
Chloroethyl acetate, beta-	08FL
Chloroethyl mercury (ceresan)	11TX
Chloroethyl phosphoric acid, 2-	10TX
Chloroethyl vinyl ether, 2-	08FL
Chloroform	10TX
Chlorolose, alpha-	10TX
Chloro-m-cresol, 4-	10TX
Chloromercuri phenol, p-(11TX
Chloromercuribenzoic acid, 4-	11TX
Chloromercuribenzoic acid, sodium salt, 4-	11TX
Chloromercuric benzoate, p-	10TX
Chloromercuric benzoic acid, p-	10TX
Chloromercuricphenylsulfonate, p-	11TX
Chloromethyl methyl ether	08FL
Chloromethylbutane	08FL
Chloromethylpropane (isobutyl chloride)	08FL
Chloromycetin	10TX
Chloronaphthalene, 1-	10TX
Chloronaphthalene, 2-	10TX
Chloronitrobenzene, all isomers	10TX
Chloronitroethane, 1,1-	10TX
Chloro-o-toluidine hydrochloride, 4-	10TX

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Chloro-o-tolyloxy)-acetic acid, (4-	10TX
Chloroperoxybenzoic acid, meta-	17OX
Chlorophenarsazine, 10-	11TX
Chlorophenol, all isomers	10TX
Chlorophenoxyacetic acid	03CA
Chlorophenyl isocyanate, p-	10TX
Chlorophenyl)-2-thiourea, 1-(2-	10TX
Chlorophenyl)-N, N-dimethylurea, N'-(p-	10TX
Chlorophenylhydrazine hydrochloride	10TX
Chlorophyll	19NH
Chloropicrin, liquid	08FL
Chloroplatinic acid	11TX
Chloro-p-nitrotoluene, alpha-	10TX
Chloro-p-phenylacetophenone, 2-	10TX
Chloropropane, 2-	08FL
Chloropropionaldehyde diethyl acetal,beta-	08FL
Chloropropionic acid, beta-	03CA
Chloropropionitrile	10TX
Chloropropionyl chloride	14WS
Chloropropiophenone, 3-	08FL
Chlorosalicylaldehyde, 5-	10TX
Chlorosalicylic acid, 5-	10TX
Chlorosuccinimide, N-	170X
Chlorosulfonic acid	170X
Chlorotetracycline hydrochloride	10TX
Chlorothymol	10TX
Chlorotoluene, all isomers	08FL
Chlorotriethylamine hydrochloride, 2-	03CA
Chlorotrimethylsilane	14WS
Chlorotriphenylmethane	03CA
Chlorpromazine hydrochloride	10TX
Chlorpropamide	10TX
Chlorprothixene	10TX
Chlorpyriphos	10TX
Cholesterol	10TX
Cholesteryl acetate	19NH
Cholesteryl chloride	19NH
Cholesteryl oleate	19NH
Cholesteryl palmitate	19NH
Cholesteryl pelargonate	19NH
Cholic acid	10TX
Choline chloride	19NH
Chromatographic alumina, basic	11TX
Chromatographic alumina, neutral	11TX
Chrome alum	11TX
Chromerge	170X
Chromic (VI) oxide	11TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Chromic acid	17OX
Chromic carbonate	19NH
Chromic nitrate	17OX
Chromic oxide (Chromium III oxide)	11TX
Chromium	11TX
Chromium (III) chloride anhydrous	11TX
Chromium (III) chloride hexahydrate	11TX
Chromium (III) hydroxide	02CB
Chromium (III) perchlorate	15SS
Chromium (III) sulfate hydrate	11TX
Chromium acetate	11TX
Chromium ammonium sulfate (Ammonium chromium sulfate)	11TX
Chromium nitrate	17OX
Chromium oxide	11TX
Chromium potassium sulfate dodecahydrate	11TX
Chromium trioxide	17OX
Chromotrope 2R	11TX
Chromotropic acid (1,8-dihydroxynaphthalene-3,6-sulfonic acid)	10TX
Chromotropic acid, sodium salt	10TX
Chrysene	10TX
Chymotrypsin	19NH
Cibacron blue	10TX
Cinchonine	10TX
Cineole	08FL
Cinnamaldehyde, trans-	08FL
Cinnamamide	10TX
Cinnamic acid, trans-	10TX
Cinnamoyl chloride	14WS
Citraconic acid	03CA
Citraconic anhydride	03CA
Citric acid	19NH
Citronellal	08FL
Citronellol, 1-	08FL
Citrulline, DL	19NH
Citrus red	10TX
Clayton yellow	10TX
CM cellulose	19NH
CM sephadex	10TX
CNBr-activated sepharose	11TX
Coal tar distillates	08FL
Cobalt	11TX
Cobalt (II) acetate anhydrous	11TX
Cobalt (II) acetate tetrahydrate	11TX
Cobalt (II) carbonate	11TX
Cobalt (II) chloride anhydrous	11TX
Cobalt (II) chloride hexahydrate	11TX
Cobalt (II) fluoride	11TX

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Cobalt (II) nitrate hexahydrate	17OX
Cobalt (II) oxide	11TX
Cobalt (II) sulfate hexahydrate	11TX
Cobalt (III) acetate anhydrous	17OX
Cobalt (III) fluoride anhydrous	17OX
Cobalt chromate	17OX
Cobalt naphthenate	11TX
Cobalt nitrate	17OX
Cobalt trifluoride	17OX
Cobalt(II) sulfate hydrate	11TX
Cobaltic oxide	11TX
Cochineal	10TX
Coconut oil	08FL
Colcemid	10TX
Colchicine	10TX
Collidine, 2,4,6- (2,4,6-trimethylpyridine)	08FL
Collodion	08FL
Concanavalin a	10TX
Congo red	10TX
Congo red stain	10TX
Coomassie blue	10TX
Copper	11TX
Copper (II) nitrate	17OX
Copper chromite catalyst	11TX
Copper naphthenate	11TX
Copper plating solution	11TX
Copper sulfate pentahydrate	11TX
Corn oil (vegetable oil,peanut oil)	08FL
Corrosion component C	02CB
Cotinine	08FL
Cotton blue	10TX
Coumaric acid, 2-	03CA
Coumaric acid, 3-	03CA
Coumaric acid, 4-	03CA
Coumarin	10TX
Coumarinyl maleimide, 3-	10TX
Coverbond	10TX
Creatine	19NH
Creatine zinc chloride	10TX
Creatinine	19NH
Creosote	08FL
Cresol	03CA
Cresolsulfonaphthalein, m-	10TX
Cresolsulfonaphthalein, o-	10TX
Cresotinic acid, p-	10TX
Cresyl acetate (p-tolyl acetate)	10TX
Cresyl violet acetate	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Cresyl violet acetate stain (perchlorate)	10TX
Croton oil	10TX
Crotonaldehyde	08FL
Crotonic acid	03CA
Cruachem deblock solution (contains dichloromethane, trichloroacetic acid)	10TX
Crude oil, petroleum	08FL
Crystal violet	10TX
Cumene	08FL
Cumene hydroperoxide [#]	15SS
Cumidine	08FL
Cupferron	10TX
Cupric 8, hydroxyquinolinolate	08FL
Cupric acetate anhydrous	11TX
Cupric acetate monohydrate	11TX
Cupric acetoarsenite	11TX
Cupric arsenate	11TX
Cupric bromide	11TX
Cupric carbonate	11TX
Cupric chloride	11TX
Cupric chloride hydrate	11TX
Cupric chromite	11TX
Cupric citrate	11TX
Cupric cyanide	11TX
Cupric nitrate	17OX
Cupric nitrate hydrate	17OX
Cupric oxalate	10TX
Cupric oxide	11TX
Cupric phosphate	11TX
Cupric selenite	11TX
Cupric sulfate	11TX
Cupric sulfide	11TX
Cupric tartrate	10TX
Cuprin	10TX
Cuprous bromide	11TX
Cuprous chloride	11TX
Cuprous cyanide	11TX
Cuprous iodide	11TX
Cuprous oxide	11TX
Cyanamide, calcium salt	11TX
Cyanazine	10TX
Cyanide	10TX
Cyanoacetamide, 2-	10TX
Cyanoacetic acid	03CA
Cyanobenzaldehyde, p-	10TX
Cyanogen	07CG
Cyanogen bromide	11TX

*Explosion hazard

[#]Highly reactive

^vMay form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Cyanogen chloride	07CG
Cyanogum catalyst	11TX
Cyanopyridine	11TX
Cyanopyridine, 4-	10TX
Cyanopyridine-N-oxide, 4-	17OX
Cyanopyrimidine, 3-	11TX
Cyanuric acid	03CA
Cyanuric chloride	02CB
Cyclaine (hexylcaine HCl)	10TX
Cycloheptanone	08FL
Cyclohexaamylose	19NH
Cyclohexamide	08FL
Cyclohexane	08FL
Cyclohexanecarboxylic acid	03CA
Cyclohexanedicarboxylic anhydride	03CA
Cyclohexanedione, 5,5-dimethyl-1,3-	10TX
Cyclohexanidione, 1,4-	08FL
Cyclohexanol	08FL
Cyclohexanone	08FL
Cyclohexene [∇]	08FL
Cyclohexene oxide	08FL
Cycloheximide	10TX
Cyclohexyl-3-(2-morpholinoethyl)-carbodiimide metho-p-toluenesulfonate	10TX
Cyclohexyl-3-(2-morpholinoethyl)-carbodiimide methyl p-toluene	10TX
Cyclohexyl-3-thiourea, 1-	10TX
Cyclohexylamine	08FL
Cyclohexylenedinitrilotetraacetic acid, 1,2-	03CA
Cyclohexylpiperidine, N-	10TX
Cyclooctane [∇]	08FL
Cyclopentadiene, 1,3-	08FL
Cyclopentane	08FL
Cyclopentanol	08FL
Cyclopentanone	08FL
Cyclopentenone, 2-	08FL
Cyclophosphamide	10TX
Cymene, p-	08FL
Cypermethrin	10TX
Cysteamine-N-acetic acid	10TX
Cysteine hydrochloride	10TX
Cysteine, L-	19NH
Cytidine-3'-monophosphate	10TX
Cytidylic acid, 3'-	10TX
Cytochalasin b	10TX
Cytochrome c	10TX
Cytodex 3	19NH
D, 2,4-	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
D-19 developer	02CB
Dalapon	03CA
Dansyl aziridine	10TX
Dansyl chloride	03CA
Dansyl cysteine piperipinium salt	10TX
Dansyl-DL-tryptophan	10TX
Dansyl-L-cysteine	10TX
Dansyl-L-glutamine	10TX
Dansyl-L-proline	10TX
Daunomycin	10TX
DDA 3500 diesel additive	08FL
DDI (dimeryldiisocyanate)	14WS
DDT	10TX
DEAE anion exchanger	10TX
DEAE cellulose	10TX
Deanol	08FL
Deanol acetamidobenzoate	10TX
Decahydronaphthalene	08FL
Decalcifying solution (contains EDTA)	10TX
Decalin	08FL
Decane	08FL
Decanoic acid	10TX
Decanoyl chloride	02CB
Decyl alcohol	08FL
Decyl aldehyde (decanal)	08FL
Decyl sodium sulfate	10TX
Decylamine, N-	08FL
Decylsuccinic anhydride	03CA
Dehydroabietylamine	10TX
Dehydroiso androsterone	10TX
Dektol	10TX
Demecoline	10TX
Deoxyadenosine	10TX
Desicate	10TX
Desmodur(1,5 naphthalene diisocyanate)	11TX
Desoxycorticosterone	10TX
Desyl chloride	10TX
Deuterated phosphoric acid	03CA
Deuterium chloride	03CA
Dexpanthenol	10TX
Dextran T 70	19NH
Di (adenosine-5') pentaphosphate	19NH
Di(ethylene glycol)	08FL
Di(propylene glycol)	10TX
Diacetin	08FL
Diacetone acrylamide	10TX
Diacetone alcohol	08FL

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Diacetyl monoxime	10TX
Diactamide	10TX
Diallyl phthalate (liquid)	08FL
Diallylamine	08FL
Diamidine-2-phenylindite dihydrochloride, 4,6-	10TX
Diamino-1-methyl-4-isopropylcyclohexane, 1, alpha-	08FL
Diaminoacridine hydrochloride, 3,6-	10TX
Diaminobenzene	10TX
Diaminobenzidine	10TX
Diaminobenzidine tetrahydrochloride, 3,3-	10TX
Diaminobutane dihydrochloride, 1,4-	10TX
Diaminobutane, 1,4-	10TX
Diaminobutylphosphonic acid, 1,4-	10TX
Diaminocyclohexane, trans-1,2-	08FL
Diaminodiphenylether, 4,4'-	10TX
Diaminodiphenylmethane, p, p'-	10TX
Diaminodipropylamine, 3,3'-	08FL
Diaminododecane, 1,12-	08FL
Diaminoethylphosphonic acid, 1,2-	10TX
Diaminohexane, 1,6-	08FL
Diaminopentane, 1,5-	02CB
Diaminophenol dihydrochloride, 2,4-	03CA
Diaminopropane, 1,3-	08FL
Diaminopropylphosphonic acid, 1,3-	10TX
Diaminotoluene, 2,4-	10TX
Diamylamine	08FL
Dianisidine	10TX
Dianisidine, tetrazotized	10TX
Diastase of malt	19NH
Diazabicyclo nonene	10TX
Diazald	10TX
Diazinon	10TX
Diazomethane	07CG
Dibenz(a,h) anthracene	10TX
Dibenzofuran	10TX
Dibenzopyrene, 1,2,7,8-	10TX
Dibenzothiophene	10TX
Dibenzyl ketone (1,3-diphenyl-2-propanone)	10TX
Dibromo-1,2-diphenylethane, meso-1,2-	10TX
Dibromo-1-propanol, 2,3-	10TX
Dibromo-3-chloropropane, 1,2-	08FL
Dibromoacetophenone, 2,4'-	10TX
Dibromoacetophenone, alpha, p-	03CA
Dibromoaniline, 2,5-	10TX
Dibromobenzene	08FL
Dibromobutan-2-ol, 1,4-	08FL
Dibromobutane	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Dibromocyclohexane, trans-1,2-	08FL
Dibromoethane, 1,2-	10TX
Dibromo-o-creosulfonephthalein, 5',5- (bromocresol purple)	10TX
Dibromopentane, 1, 5-	10TX
Dibromophosphate propanol	10TX
Dibromopropane, 2,3	10TX
Dibromopropane, 1,3-	08FL
Dibromo-p-xylene, alpha-alpha-	03CA
Dibromoquinone-4-chloroimide, 2,6-	10TX
Dibromothymolsulfone phthalein, 3',3- (bromothymol blue)	10TX
Dibromotoluene, alpha, alpha-	10TX
Dibutyl phosphate	08FL
Dibutyl phosphite	08FL
Dibutyl phthalate	10TX
Dibutylamine	08FL
Dibutylbutylphosphonate	08FL
Dibutyltin dichloride	14WS
Dicamba (3,6-dichloro-2-methoxybenzoic acid)	03CA
Dicarboxylic acid anhydride	08FL
Dicetyl phosphate	10TX
Dichloro 2-propanol, 1,3-	08FL
Dichloro-2-butene, cis-1,4-	08FL
Dichloro-2-hydroxybenzenesulfonic acid sodium salt, 3,5-	14WS
Dichloro-2-methylacrylanilide, 3', 4'-	10TX
Dichloro-2-nitrobenzene, 1,4-	10TX
Dichloro-3,6,-dihydroxy-p-benzoquinone	10TX
Dichloro-3,6-dihydroxy-p-benzoquinone, 2,5-	10TX
Dichloro-4-iodobenzene, 1,2-	10TX
Dichloro-4-nitrophenol, 2,6-	10TX
Dichloro-5, 6-dicyano-1,4-benzoquinone, 2,3-	10TX
Dichloro-5-nitropyridine, 2,6-	10TX
Dichloro-6-nitrophenol, 2,4-	10TX
Dichloroacetic acid	03CA
Dichloroaniline, 2,5-	10TX
Dichlorobenzamide, 2,4-	10TX
Dichlorobenzene, all isomers	08FL
Dichlorobenzenethiol	10TX
Dichlorobenzidine, 3,3'-	10TX
Dichlorobenzoyl peroxide, 2,4-	15SS
Dichlorobenzyl alcohol, 2,4-	10TX
Dichlorobutane, 1,4-	08FL
Dichlorodifluoromethane	07CG
Dichlorodimethyl silane	14WS
Dichlorodimethylsilane (dimethyldichlorosilane)	14WS
Dichlorodiphenylmethane	03CA
Dichloroethane	08FL
Dichloroethane, 1,1-	08FL

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Dichloroethane, 1,2-	08FL
Dichloroethylene, 1,1-	08FL
Dichloroethylene, 1,2-cis-	08FL
Dichloroethylene, 1,2-trans-	08FL
Dichlorofluorescein, 2'7'-	10TX
Dichlorohexane, 1,6-	08FL
Dichloroindole	10TX
Dichloroindophenol, 2,6-	10TX
Dichloroisoproterenol	10TX
Dichloroisoproterenol hydrochloride	10TX
Dichloromethane	08FL
Dichloromethyl)benzene, (10TX
Dichloromethylmethyl ether, alpha, alpha-	10TX
Dichloromethylsilane	14WS
Dichloromide	10TX
Dichloronaphthoquinone, 2,3-	10TX
Dichloro-o-anisic acid,3,6-	03CA
Dichlorophenol, 2, 4-	10TX
Dichlorophenol, 2,6-	10TX
Dichlorophenoxyacetic acid, 2,4-	10TX
Dichlorophenoxyacetic acid, 2,4-, NH4 salt	10TX
Dichlorophenyl phosphine	14WS
Dichlorophenyl)-2-isopropylaminoethanol, 1-(3,4-	10TX
Dichlorophenyl)-N, N-dimethylurea, N'-(3,4-	10TX
Dichlorophenylarsine	14WS
Dichlorophenylhydrazine hydrochloride, 3,4-	10TX
Dichloropropane, 1,2- (Propylene chloride)	08FL
Dichloropropanol, 1, 3- (alpha-dichlorohydrin)	10TX
Dichloropropene, 1,3-	08FL
Dichloropropionic acid, 2,2-	03CA
Dichloro-p-toluenesulfonamide	10TX
Dichloropyridazine, 3,6-	10TX
Dichloropyridine, 3,5-	10TX
Dichloroquinone chloroimide, 2,6-	10TX
Dichloroquinone, 4,7-	10TX
Dichlorotoluene, 2,4-	08FL
Dichloro-trans-2-butene, 1,4-	08FL
Dichlorvos (DDVP)	10TX
Dichromoacetophenone, p-	10TX
Dicumyl peroxide	15SS
Dicyandiamide	10TX
Dicyanobenzene, 1,2-	10TX
Dicyanopropane, 1,3-	08FL
Dicyclohexylamine	02CB
Dicyclohexylcarbodiimide, N, N'-	02CB
Dicyclohexylphthalate (DCHP)	10TX
Dicyclopentadiene	08FL

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Dicyclopentadienyl iron (ferrocene)	10TX
Dicyclopentamethylenethiuram disulfide	10TX
Didodecyl phthalate	08FL
Dieldrin	10TX
Diethanolamine	08FL
Diethoxyaniline, 2,5-	10TX
Diethoxyethanol	08FL
Diethyl 1,3-acetonedicarboxylate	08FL
Diethyl 3-oxoglutarate	08FL
Diethyl adipate	10TX
Diethyl aniline, 2,6	10TX
Diethyl barbituric acid (barbital)	10TX
Diethyl carbonate	08FL
Diethyl chlorophosphate	10TX
Diethyl chlorophosphite	08FL
Diethyl dihydro trimethyl pyridine	10TX
Diethyl ether (Ether) [∇]	08FL
Diethyl ethoxymethylenemalonate	08FL
Diethyl ethylenediamine	08FL
Diethyl formamidomalonate	10TX
Diethyl glycol monoether acetate	08FL
Diethyl ketone	08FL
Diethyl maleate	08FL
Diethyl malonate	10TX
Diethyl o-pyrazinyl phosphorothioate, o,o-	10TX
Diethyl oxalate	08FL
Diethyl phenylmalonate	08FL
Diethyl phosphite	08FL
Diethyl phthalate	08FL
Diethyl p-nitrophenyl phosphate	10TX
Diethyl propanediamine	08FL
Diethyl pyrocarbonate	08FL
Diethyl selenide	10TX
Diethyl succinate	08FL
Diethyl sulfate	08FL
Diethyl sulfite	08FL
Diethyl-2-(1-naphthoxy)-propionamide, N, N-	10TX
Diethyl-2,2'-dicarbocyanine iodide, 1-1'-	10TX
Diethylacetamide, N, N-	10TX
Diethylamine	08FL
Diethylamine hydrochloride	10TX
Diethylamino ethane-thiol hydrochloride	10TX
Diethylamino-1-propanol, 3-	08FL
Diethylaminoethanol, 2-	08FL
Diethylaminophenol, m-	09FS
Diethylaminopropylamine, 3-	02CB
Diethylaminosulfur trifluoride (DAST)	08FL

*Explosion hazard

#Highly reactive

[∇]May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Diethylaniline, N, N-	08FL
Diethylarsine	14WS
Diethylazodicarboxylate	10TX
Diethylcarbamazine	10TX
Diethylcarbamazine citrate	10TX
Diethylcyclohexylamine	08FL
Diethyldithiocarbamic acid, silver salt	11TX
Diethylene glycol monoethyl ether acetate	08FL
Diethylene triamine	02CB
Diethylhydrazine, 1,2-	15SS
Diethylhydroxylamine, N, N-	08FL
Diethylmethylamine, 2,2'-dichloro-	10TX
Diethyl-m-nitroaniline, N, N-	10TX
Diethyl-N, N'-diphenylurea, N, N'-	10TX
Diethyloxadicarbocycamine iodide, 3,3'-	10TX
Diethyl-p-nitrosoaniline, N, N-	10TX
Diethylstilbesterol U.S.P.	10TX
Diethyltoluenediamine	10TX
Difluoro-2,4-dinitrobenzene, 1,5-	15SS
Difluoro-3,3 dinitrodiphenyl sulfone, 4,4'-	10TX
Difluorobenzene, m-	08FL
Digitonin	10TX
Diglycidyl ethanol	08FL
Diglycidyl ether of propylene glycol	10TX
Diglycol stearate	10TX
Diglycolic acid	03CA
Diglycostearate	10TX
Diglyme	08FL
Digoxin	10TX
Dihexylamine	10TX
Dihydroanthracene, 9,10-	10TX
Dihydrophenanthrene	10TX
Dihydropyran (3,4-Dihydro-2H-pyran)	08FL
Dihydrosafrole	10TX
Dihydrothymine	19NH
Dihydroxy-1h-purine-2,4,6(3h)-trione, 7,9-	10TX
Dihydroxy-2-mercaptopyrimidine, 4,6-	03CA
Dihydroxy-2-propanone, 1,3-	10TX
Dihydroxy-4'-methoxyisoflavone, 5,7-	10TX
Dihydroxy-6,6-dinaphyl disulfide, 2,2-	10TX
Dihydroxy-6-methylpyrimidine,2,4-	10TX
Dihydroxyacetone dimer, 1,3- (DHA; dihydroxy propanone)	10TX
Dihydroxyacetophenone, 2',4'-	10TX
Dihydroxy-alpha-(methylamino-methyl)benzyl alcohol	10TX
Dihydroxybenzaldehyde, 2,4-	10TX
Dihydroxybenzene disulfonic acid,disodium salt	03CA
Dihydroxybenzoic acid, all isomers	03CA

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Dihydroxybenzophenone, 2,4-	10TX
Dihydroxyisonicotinic acid, 2,6- (Citrazinic acid)	10TX
Dihydroxynaphthalene-2,7-disulfonic acid, sodium salt, 4, 5-	10TX
Dihydroxynaphthalenedisulfonic acid disodium salt	10TX
Dihydroxyphenethylamine HCl, 3,4-	10TX
Dihydroxypropyl)-theophylline, 7-(2,3-	10TX
Dihydroxypyrimidine, 4,6-	10TX
Diiodobenzene, m-	10TX
Diiodohexane, 1, 6-	10TX
Diiodo-L-tyrosine dihydrate, 3,5-	10TX
Diiodomethane	10TX
Diiodotyrosine dihydrate, 3,5-	10TX
Diisobutylaluminum hydride#	14WS
Diisobutylamine	08FL
Diisooctyl phthalate	10TX
Diisopentylamine	10TX
Diisopropyl fluorophosphate	10TX
Diisopropyl ketone (2,4-dimethyl-3-pentanone)	08FL
Diisopropylamine	08FL
Diisopropylethylamine	08FL
Diisopropylethylenediamine, N, N-	10TX
Diisopropylfluorophosphate	10TX
Diketene acetone adduct (acetyl ketene)	10TX
Dimethoxy-1-propene, 3,3-	08FL
Dimethoxy-2-nitrobenzene, 1,4-	10TX
Dimethoxyaniline	10TX
Dimethoxybenzaldehyde, 2,3-	10TX
Dimethoxybenzaldehyde, 3,4-	10TX
Dimethoxybenzene, p-	10TX
Dimethoxybenzidine dihydrochloride, 3,3'-	10TX
Dimethoxybenzidine, 3,3'-	10TX
Dimethoxybenzoic acid, all isomers	10TX
Dimethoxyethane, 1,2-	08FL
Dimethoxymethane	08FL
Dimethoxy-o-phthalaldehydic acid, 5,6-	10TX
Dimethoxyphenol, 2,6-	10TX
Dimethoxyphenylethylamine HCl (homoveratylamine)	10TX
Dimethoxyphenylacetylchloride (homoveratylchloride)	10TX
Dimethoxypropane, 2,2-	15SS
Dimethyl acetophenone, 2,4-	08FL
Dimethyl acetylenedicarboxylate	10TX
Dimethyl azobenzene	10TX
Dimethyl benzophenone	10TX
Dimethyl carbonate	14WS
Dimethyl dichlorosilane	08FL
Dimethyl disulfide	08FL
Dimethyl dodecylamine-N-oxide, N,N-	10TX

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Dimethyl fumarate	10TX
Dimethyl malonate	08FL
Dimethyl nitroaniline	10TX
Dimethyl phenethyl alcohol	10TX
Dimethyl phenol, all isomers	03CA
Dimethyl phosphite	08FL
Dimethyl phthalate	10TX
Dimethyl piperidine, 2,6-	08FL
Dimethyl POPOP	10TX
Dimethyl pyrazine, 2,5-	08FL
Dimethyl sulfate	14WS
Dimethyl sulfoxide	10TX
Dimethyl terephthalate	10TX
Dimethyl tetrachloroterephthalate	10TX
Dimethyl tin oxide	10TX
Dimethyl urea, 1,3-	10TX
Dimethyl yellow	10TX
Dimethyl-1,3,-propanediamine, 1,2-	08FL
Dimethyl-1,3-cyclohexanedione, 5,5-	10TX
Dimethyl-1,3-propanediol, 2,2-	10TX
Dimethyl-1,4-cyclohexanedicarboxylate	10TX
Dimethyl-1-naphthylamine, N, N-	10TX
Dimethyl-1-phenylpyrrole, 2, 5-	10TX
Dimethyl-2-butanone, 3,3-	08FL
Dimethyl-2-nitrobenzene, 1,3- (nitroxylen)	10TX
Dimethyl-3-nitrobenzene, 1,2-	10TX
Dimethyl-3-pentanol, 2,2-	08FL
Dimethyl-4-heptanone, 2,6-	08FL
Dimethylacetamide, N, N-	08FL
Dimethylallylamine	08FL
Dimethylamine (DMA), inhibited	08FL
Dimethylamine salt of 2,4-D	10TX
Dimethylamino-1-propanol, 3-	08FL
Dimethylamino-2,3-benzophenoxazine, 8-	10TX
Dimethylaminoazobenzene, 4-	10TX
Dimethylaminoazobenzene, p- (methyl yellow)	10TX
Dimethylaminobenzaldehyde, p-	10TX
Dimethylaminobenzene, p- (syldine)	08FL
Dimethylaminobenzoic acid, m-	10TX
Dimethylaminobenzophenone, 4-	10TX
Dimethylaminocinnamaldehyde, 4-	10TX
Dimethylaminoethanol	08FL
Dimethylaminonaphthalene-1-sulfonyl fluoride, 5-	10TX
Dimethylaminonaphthalene-1-sulfonylaziridine, 5-	10TX
Dimethylaminonaphthalene-sulfonyl chloride	10TX
Dimethylaminopropionitrile	08FL
Dimethylaminopropionitrile, beta-	08FL

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Dimethylaminopropiophenone, beta-	10TX
Dimethylaminopyridine, 4-	10TX
Dimethylaniline, all isomers	10TX
Dimethylantracene, 9,10-	10TX
Dimethylbenz[a]anthracene, 7,12-	10TX
Dimethylbenz[a]anthracene, 9,10-	10TX
Dimethylbenzenesulfonic acid sodium salt	10TX
Dimethylbenzenesulfonic acid, 2,5-	10TX
Dimethylbenzidine, 3,3'-	10TX
Dimethylbenzimidazole, 2,5-	10TX
Dimethylbenzyl hydroperoxide	15SS
Dimethylbenzylamine (BDMA)	02CB
Dimethylbenzylamine HCl	10TX
Dimethylbenzylamine, N, N-	02CB
Dimethylcarbamoyl chloride	14WS
Dimethylcyclohexanedione	03CA
Dimethylcyclohexylamine, 2,3-	08FL
Dimethyldichlorosilane	14WS
Dimethyldithiocarbamic acid sodium salt	10TX
Dimethylethanolamine, N, N-	08FL
Dimethylformamide	08FL
Dimethylformamide, N, N-	08FL
Dimethylglyoxime	10TX
Dimethylhydrazine [#]	08FL
Dimethylimidazole	10TX
Dimethylmercury	11TX
Dimethylnaphthalene, 1,6-	10TX
Dimethylnitrosamine	08FL
Dimethyl-o-phenylene diamine dihydrochloride (p-aminodimethylaniline)	10TX
Dimethylpentane, 2,3-	08FL
Dimethylphenethylamine, alpha, alpha-	08FL
Dimethylphenol, all isomers	10TX
Dimethyl-p-nitrosoaniline	10TX
Dimethyl-p-nitrosoaniline, N, N- (N-nitrosodimethylaniline)	08FL
Dimethylpolysiloxane	08FL
Dimethyl-p-phenylazo-aniline, N, N- (DAB)	10TX
Dimethyl-p-phenylenediamine (p-aminodimethylaniline)	10TX
Dimethyl-p-phenylenediamine sulfate, N, N-	10TX
Dimethyl-p-phenylenediamine, N, N-	10TX
Dimethyl-p-phenylenediamine, N, N- hydrochloride	10TX
Dimethyl-p-toluidine, N, N-	08FL
Dimethylpyridine, 2,4- (2,4-lutidine)	08FL
Dimethylquinoline, 2,6-	10TX
Dimethylsuberimidate	10TX
Dimethylsuberimidate hydrochloride	10TX
Dimethylsuccinic acid, meso-2,3-	10TX

*Explosion hazard

[#]Highly reactive

^vMay form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Dimethylsulfate (methyl sulfate)	08FL
Dimethylsulfolane, 2,4-	10TX
Dimethylthiocarbamoyl chloride	10TX
Dimite (dimethyl carbinol)	08FL
Di-N-heptylamine	10TX
Dinitramine	10TX
Dinitrilodiphenol	10TX
Dinitroaniline, 2,4-	15SS
Dinitroanisole, 2,4-	10TX
Dinitrobenzene, all isomers*	15SS
Dinitrobenzenesulfonyl chloride, 2,4-*	15SS
Dinitrobenzoic acid, 3,5-	15SS
Dinitrobenzoyl chloride, 3,5-	14WS
Dinitrofluorobenzene, 2,4-	10TX
Dinitro-o-cresol, 4,6-	15SS
Dinitro-o-cyclohexylphenol, 4,6-	10TX
Dinitrophenol, 2,4-	15SS
Dinitrophenylazo)-1-naphthol-3,6-disulfonic acid, 2-(2,4- disodium salt	10TX
Dinitrophenylhydrazine, 2,4-#	09FS
Dinitro-p-toluic acid, 3, 5-	10TX
Dinitrosalicylic acid, 3,5-	15SS
Dinitrose-naphthalenediol	10TX
Dinitrotoluene, 2,4-*	15SS
Dinitrotoluene, 2,6-*	15SS
Di-N-octylamine	10TX
Dinonylphthalate	08FL
Dinoseb methacrylate	10TX
Diocetyl phthalate	10TX
Diocetyl sebacate	10TX
Diocetyl sodium sulfosuccinate	10TX
Diocetylphthalate (bis(2-ethylhexyl)phthalate)	08FL
Diocetylphthalate oil	10TX
Di-o-isopropylidene mannitol, 1,2,5,6-	10TX
Diothane HCl	10TX
Dioxane, 1,4- [∇]	08FL
Dipentene	08FL
Dipentylamine	08FL
Diphenic acid	10TX
Diphenyl chlorophosphate	14WS
Diphenyl diselenide	11TX
Diphenyl methane-4,4'-diisocyanate	14WS
Diphenyl phenanthroline	10TX
Diphenyl phosphite	14WS
Diphenyl-1,10-phenanthroline, 4,7-	10TX
Diphenyl-1,3,5-hexatriene, 1,6-	10TX
Diphenyl-2-propanone, 1,3-	10TX
Diphenylacetamide, N, N-	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Diphenylacetic acid	03CA
Diphenylacetoneitrile	10TX
Diphenylamine	10TX
Diphenylamine-4-sulfonic acid sodium salt	10TX
Diphenylbenzidine, N, N'-	10TX
Diphenylboric acid	10TX
Diphenylbutadiyne	10TX
Diphenylcarbonyl chloride	14WS
Diphenylcarbazone	10TX
Diphenylcarbohydrazide, 1,5-	10TX
Diphenylcarbonyl chloride	14WS
Diphenylchlorophosphate	14WS
Diphenylchlorophosphine	10TX
Diphenylethylamine, 1,2-	10TX
Diphenylethylene, 1,1-	08FL
Diphenylhydantoin, 5,5-	10TX
Diphenylhydantoin, sodium salt	10TX
Diphenylhydrazine hydrochloride, 1,1-	15SS
Diphenylhydrazine, 1,2- (hydrazobenzene)	10TX
Diphenylmethane	10TX
Diphenyl-propanedione	10TX
Diphenylsemicarbazide, 4,4-	10TX
Diphenylsilanediol	14WS
Diphenylsulfone	10TX
Diphenylthiocarbazone	10TX
Diphenylthiourea	10TX
Diphenylurea-1,3 (carbanilide)	08FL
Dipicrylamine	15SS
Dipropylamine	08FL
Dipropylaniline, N, N'-	08FL
Dipyridyl dihydrate	10TX
Dipyridyl, 2,2'-	10TX
Dipyrone	10TX
Disodium ethylenediaminetetraacetic acid	10TX
Disodium methyl arsenate	11TX
Di-t-butyl malonate	08FL
Di-t-butyl diperphthalate	10TX
Di-t-butyl-p-cresol, 2,6-	10TX
Di-tert-butyl-4-methyl phenol, 2,6-	10TX
Di-tertbutylbenzene, 1,4-	10TX
Dithiazanine	10TX
Dithiobis-(2-nitrobenzoic acid), 5,5'-	10TX
Dithiobiuret, 2,4-	10TX
Dithiooxamide	10TX
Dithiosalicylic acid, 2,2'-	10TX
Dithioterephthalic acid	10TX
Dithiothreitol	10TX

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Dithizone (diphenylthiocarbazone)	10TX
Divinylbenzene, m-	08FL
DL-serine	19NH
DL-valine	19NH
DMA	08FL
DMAE p-acetamidobenzoate	10TX
DMP-30 2,4,6-tris(dimethylamino-methyl)phenol	10TX
DMSO (dimethylsulfoxide)	08FL
Docosane-	10TX
Dodecane	08FL
Dodecanedioic acid	03CA
Dodecanethiol, 1-	08FL
Dodecanol, 1-	10TX
Dodecene, 1- (sodium dodecylbenzene sulfonate)	08FL
Dodeceny succinic anhydride (DDSA)	10TX
Dodecyl aldehyde	08FL
Dodecylamine	02CB
Dopa, L-	19NH
Dopamine	10TX
Dowex	19NH
Dowex ion retardation resin	19NH
Doxorubicin	10TX
Drabkin's solution (contains cyanide)	10TX
Dricote (contains methylene chloride)	10TX
Dulcitol (galactitol)	19NH
Dursban (chlorpyrifos)	10TX
Dyphylline	10TX
Eastman universal indicator	10TX
EDAC (ethylaluminium dichloride)	14WS
EDTA	10TX
EGTA	10TX
Elastase	19NH
Elenious acid (H ₂ SeO ₃)	17OX
Ellagic acid	03CA
Elon	10TX
Embedding media	08FL
Emetine	10TX
Endrin	10TX
Enflurane	10TX
Enhance	08FL
Eosin B	10TX
Eosin Y	10TX
Ephedrine	10TX
Ephedrine alkaloid	10TX
Ephedrine sulfate	10TX
Epibromohydrin	08FL
Epichlorohydrin	08FL

100

*Explosion hazard

#Highly reactive

^vMay form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Epichlorohydrin triethanolamine cellulose (EC-TEOLA cellulose)	10TX
Epinephrine	10TX
Epon 812 epoxide	10TX
Epon resin	10TX
Epoxy resin	10TX
Epoxy-activated sepharose	10TX
Epoxypropoxy)phenylpropane, 2,2-bis-(p-2,3-	10TX
Erepsin	19NH
Ergosterol	10TX
Eriochrome black T	10TX
Erucic acid	10TX
Erythorbic acid	03CA
Erythromycin	10TX
Erythromycin stearate	10TX
Erythrosin B	10TX
Eserine sulfate	10TX
Estradiol	10TX
Ethacrynic acid	03CA
Ethanedisulfonic acid, 1, 2-	03CA
Ethanedithiol, 1,2-	08FL
Ethanesulfonic acid	03CA
Ethanethiol	08FL
Ethanol	08FL
Ethanolamine	08FL
Ethendadenosine-5-triphosphate	10TX
Ether (ethyl ether)	08FL
Ethidium bromide	10TX
Ethionine, DL-	10TX
Ethoxybenzoic acid, o-	03CA
Ethoxyethanol, 2-	08FL
Ethoxyethoxy)ethanol, 2-(2-	08FL
Ethoxyethyl ether, 2-	08FL
Ethoxyethylbenzene	08FL
Ethoxylated thioether	08FL
Ethyl 4,4'-dichlorobenzilate	10TX
Ethyl 4-nitrocinnamate	10TX
Ethyl acetate	08FL
Ethyl acetoacetate	08FL
Ethyl acrylate	08FL
Ethyl alcohol	08FL
Ethyl anisate	08FL
Ethyl benzoate	08FL
Ethyl benzoylacetate	10TX
Ethyl bromide	08FL
Ethyl bromobutyrate	08FL
Ethyl butyrate	08FL
Ethyl carbamate	10TX

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Ethyl carbamate urethane	10TX
Ethyl chloride	08FL
Ethyl chloroacetate	10TX
Ethyl chloroformate	14WS
Ethyl cinnamate	10TX
Ethyl cyanoacetate	10TX
Ethyl diazoacetate	15SS
Ethyl eosin	10TX
Ethyl ether	08FL
Ethyl fluoroacetate	08FL
Ethyl formate	08FL
Ethyl hexylamine	09FS
Ethyl iodide	08FL
Ethyl isocyanate	14WS
Ethyl isothiocyanate (ethyl thiocarbimide)	08FL
Ethyl lactate	08FL
Ethyl laurate	10TX
Ethyl magnesium bromide	08FL
Ethyl maleimide, N-	02CB
Ethyl malonate	08FL
Ethyl m-aminobenzoate	08FL
Ethyl methacrylate, inhibited	08FL
Ethyl naphthylamine	10TX
Ethyl oleate	10TX
Ethyl oxalate	08FL
Ethyl phenylacetate	08FL
Ethyl phthalate	08FL
Ethyl propionate	08FL
Ethyl pyridine, 2-	08FL
Ethyl quinolinium iodide, 1-	10TX
Ethyl stearate	10TX
Ethyl thiocyanate	08FL
Ethyl trichloroacetate	08FL
Ethyl urea	10TX
Ethyl vinyl ether	08FL
Ethyl-1-butanol, 2- (2-Ethylbutyl alcohol)	08FL
Ethyl-1-hexanol, 2-	08FL
Ethyl-2-bromopropionate	08FL
Ethyl-2-methylpyridine, 5-	02CB
Ethyl-2-pentene, 3-	08FL
Ethyl-3 (3-dimethylamino-propyl) carbodiimide, 1-	10TX
Ethyl-3-(3-dimethylaminopropyl)carbodiimide, 1-	10TX
Ethylamine hydrochloride	10TX
Ethylamine, anhydrous gas	07CG
Ethylamine, aqueous solution	08FL
Ethylaniline, N-	08FL
Ethylbenzene	08FL

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Ethyldisulfide	10TX
Ethylene bis-oxyethylenenitrilotetra-acetic acid	03CA
Ethylene carbonate	10TX
Ethylene diacetate	08FL
Ethylene diacrylate	08FL
Ethylene dibromide	10TX
Ethylene dichloride	08FL
Ethylene dimethacrylate	10TX
Ethylene glycol	10TX
Ethylene glycol diacetate	08FL
Ethylene glycol dimethylacrylate	10TX
Ethylene glycol monomethyl ether	08FL
Ethylene glycol monomethyl ether acetate	08FL
Ethylene maleic anhydride copolymer	03CA
Ethylene oxide	08FL
Ethylene sulfide	08FL
Ethylenediamine	02CB
Ethylenediamine dihydrochloride	10TX
Ethylenediamine tetraacetic acid	10TX
Ethylenediamine trifluoroacetic acid, 2-(hydroxypropyl)	10TX
Ethylenediaminetetraacetic acid, disodium salt	10TX
Ethylenediaminetetraethanol-(tetrahydroxyethyl)ethylenediamine	10TX
Ethylenedinitrotetraacetic acid dipotassium salt	10TX
Ethylenedinitrotetraacetic acid tetrasodium salt	10TX
Ethylenethiourea	10TX
Ethylenimine	08FL
Ethylhexanediol	10TX
Ethylhexanol, 2-	08FL
Ethylhexylamine, 2-	08FL
Ethylmaleimide, N-	09FS
Ethylmercuric phosphate	11TX
Ethylmercurithiosalicylic acid, sodium salt	11TX
Ethylmorpholine, N-	08FL
Ethyl-m-toluidine, N-	08FL
Ethyl-N-heptanoate	08FL
Ethyl-o-toluidine, N- (N-ethyl-o-aniline)	08FL
Ethylphenol, all isomers	10TX
Ethylpropyl-3,4-dimethyl-2,6-dinitroaniline, N-(1-	10TX
Ethylurea	10TX
Ethylxanthic acid, potassium salt	10TX
Eucalyptol	08FL
Eugenol	10TX
Evan's blue	10TX
Fast Blue RR salt	10TX
Fast garnet stain	10TX
Fast green	10TX
Fat red (Sudan red 7B)	10TX

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
FD&C green #3 powder	19NH
Ferric ammonium chromate	11TX
Ferric ammonium citrate	11TX
Ferric ammonium sulfate	03CA
Ferric chloride	03CA
Ferric chloride hexahydrate	03CA
Ferric citrate	11TX
Ferric cyanide 10%	11TX
Ferric ferrocyanide	11TX
Ferric fluoride	11TX
Ferric glycerophosphate	10TX
Ferric nitrate nonahydrate	17OX
Ferric oxide	11TX
Ferric oxide saccharated	11TX
Ferric sulfate	11TX
Ferrocene	11TX
Ferrocyanide 10%	11TX
Ferrosoferric oxide (Fe ₃ O ₄)	11TX
Ferrous ammonium sulfate	11TX
Ferrous bromide	11TX
Ferrous chloride	03CA
Ferrous iodide trihydrate	11TX
Ferrous nitrate	17OX
Ferrous oxalate	11TX
Ferrous oxide	19NH
Ferrous phosphate	11TX
Ferrous sulfate	11TX
Ferrous sulfide (iron sulfide)	11TX
Ferrozine® iron reagent	10TX
Fetteling (copper) solution	10TX
Ficoll-Paque	10TX
Fisher universal indicator	10TX
Flaming red	10TX
Flavianic acid hydrate	03CA
Flavone	10TX
Florisil	19NH
Fluchloralin	10TX
Fluoboric acid	03CA
Fluoralloy (95% PPO)	10TX
Fluoranthrene	10TX
Fluorenamine, 2-	10TX
Fluorene	10TX
Fluorene-9-carboxylic acid	03CA
Fluorenone, 9-	10TX
Fluorenyl)acetamide, N-(2-	10TX
Fluorescein	19NH
Fluorescein diacetate	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Fluorescein disodium salt	10TX
Fluorescein isothiocyanate	14WS
Fluoresceinamine	10TX
Fluorine (gas)	07CG
Fluoro-2,4-dinitrobenzene, 1-	10TX
Fluoro-3-nitroaniline, 4-	08FL
Fluoroacetamide	10TX
Fluorobenzene	08FL
Fluorobenzoic acid, o-	03CA
Fluorodeoxyuridine	10TX
Fluorohance (contains toluene and acetic acid)	08FL
Fluoroscein isothiocyanate	14WS
Fluorotoluene, ortho-	08FL
Folin & Ciocalteu's Reagent	03CA
Formaldehyde solution	08FL
Formalin	08FL
Formamide	10TX
Formanilide	10TX
Formic acid	08FL
Formic acid, sodium salt	10TX
Formvar resin	19NH
Formylbenzoic acid, 2-	10TX
Formylbenzoic acid, 4-	10TX
Formylglycine	10TX
Freon 22 (chlorodifluoromethane)	10TX
Freon TF	10TX
Fructose 1,6-diphosphate disodium salt	19NH
Fructose, D-	19NH
Fucshin, acid	10TX
Fucshin, basic	10TX
Fuller's earth	19NH
Fumaric acid	10TX
Fumaric acid disodium salt	10TX
Fumaryl chloride	02CB
Fumazone	08FL
Fuming nitric acid	16NA
Furaldehyde, 2-	08FL
Furan	08FL
Furfural (Furaldehyde, 2-)	08FL
Furfuryl alcohol	08FL
Furfurylamine (2-aminofuran)	08FL
Furil dioxime	10TX
Furoic acid, 2-	10TX
Furosemide (lasix)	10TX
Furyl acrylic acid	10TX
Fyrite 7% (contains potassium hydroxide)	02CB
Galactose, D-	19NH

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Galacturonic acid, D-	03CA
Gallein	10TX
Gallic acid	03CA
Gallium nitrate	11TX
Gamma-globulins	19NH
Gammexane (lindane)	10TX
Gasoline	08FL
Gastric mucin powder	19NH
Gelatin	19NH
Genetron 12 (gas)	07CG
Gentamicin	10TX
Gentian violet	10TX
Geraniol	08FL
Germanium (IV) oxide	11TX
Germanium tetrachloride	14WS
Ghatti gum	19NH
Gibberelic acid	19NH
Giemsa stain	10TX
Gleocin	10TX
Gluconic acid	19NH
Gluconic acid sodium salt	19NH
Glucono delta lactone	10TX
Gluconolactone	10TX
Glucosamine hydrochloride, D-(+)-	19NH
Glucose, D-	19NH
Glucuronic acid	10TX
Glucuronolactone, D-	10TX
Glutamic acid, L-	19NH
Glutamine acid, L-	10TX
Glutaraldehyde	10TX
Glutaric acid	19NH
Glutaric anhydride	10TX
Glutaronitrile	10TX
Glutathione	10TX
Glutidine, 2-	10TX
Glycerine	08FL
Glycerol	08FL
Glyceryl diacetate	08FL
Glyceryl monoacetate	08FL
Glyceryl monostearate	10TX
Glyceryl triacetate	08FL
Glycidylaldehyde	08FL
Glycine	19NH
Glycine ethyl ester hydrochloride	10TX
Glycine methyl ester hydrochloride	10TX
Glycogen	19NH
Glycol methacrylate	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Glycolic acid	10TX
Glycolic acid, calcium salt	10TX
Glycylglycine	19NH
Glycyl-L histidyl-L-lysine acetate	19NH
Glyoxal	03CA
Glyoxal (40% in water)	03CA
Glyoxal bis (2-hydroxyanil)	10TX
Glyoxal bis(o-hydroxyanil)	10TX
Glyphosate N-(phosphonomethyl)glycine	10TX
Gold	11TX
Gold chloride	11TX
Gram's iodine solution	11TX
Guaiacol	08FL
Guanidine carbonate	10TX
Guanidine hydrochloride	10TX
Guanidine nitrate	15SS
Guanidine thiocyanate	10TX
Guanidineacetic acid	03CA
Guanosine 5' diphosphate	19NH
Guanylyl-cytosine	19NH
Gum arabic	19NH
Gum ghatti	19NH
Guthion	10TX
Hanker Yates reagent	10TX
Hematoxylin	10TX
Hematoxylin stain (aluminum sulfate, acetic acid, ethylene glycol)	10TX
Hemicholinium-3 hydrate	10TX
Hemocyanin	19NH
Hemo-DE (terpene, mineral oil, butylated hydroxyanisole)	08FL
Hengar granules (selenized poison)	11TX
Heparin	19NH
HEPES	10TX
Heptachlor	10TX
Heptafluorobutyric acid	03CA
Heptaldehyde	08FL
Heptamethylnonane, 2,2,4,4,6,8,8-	08FL
Heptane	08FL
Heptanoic acid	03CA
Heptanone	08FL
Heptene, 1-	08FL
Heptylaldehyde	08FL
Heptylamine, N-	08FL
Hexabutyl stannoxane	11TX
Hexachloro-1,3-butadiene	10TX
Hexachlorobenzene	10TX
Hexachlorocyclohexane	10TX
Hexachlorocyclopentadiene	10TX

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Hexachlorodibenzo-p-dioxin	10TX
Hexachloroethane	10TX
Hexachlorohexahydro-endo-endo-dimethanonaphthalene	10TX
Hexachlorophene	10TX
Hexachloropropene	08FL
Hexadecane	10TX
Hexadecanol, 1-	10TX
Hexadecene, 1-	08FL
Hexadecyltrimethylammonium bromide	10TX
Hexafluoro-2-propanol, 1,1,1,3,3,3-	02CB
Hexafluoroacetone	10TX
Hexahydrobenzene	08FL
Hexaldehyde	08FL
Hexamethyl phosphoramidate	08FL
Hexamethyl phosphorous triamide	08FL
Hexamethyl tetraphosphate	10TX
Hexamethyldisilane	14WS
Hexamethyldisilazane, 1,1,1,3,3,3-	14WS
Hexamethyldisiloxane	08FL
Hexamethylene diisocyanate	14WS
Hexamethylenetetramine	09FS
Hexamethylphosphoramidate	10TX
Hexamethylsiloxane	08FL
Hexamine cobalt	11TX
Hexanal	08FL
Hexane	08FL
Hexanediamine, 1,6-	02CB
Hexanediol, 1,6-	08FL
Hexanediol, 2,5-	10TX
Hexanedione, 2,5-	08FL
Hexanenitrile	08FL
Hexanes, mixture of isomers	08FL
Hexanilide	10TX
Hexanoic acid	03CA
Hexanol, 1-	08FL
Hexazinone (triazine pesticide)	10TX
Hexene, 1-	08FL
Hexene-2-one, 5-	08FL
Hexestrol	10TX
Hexokinase	19NH
Hexonediamine, 1,6-	10TX
Hexyl alcohol	08FL
Hexyl methyl ketone	08FL
Hexyl sulfide	10TX
Hexylamine, N-	08FL
Hexylene glycol	10TX
Hexylresorcinol	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Hippuric acid	10TX
Hippuric acid, sodium salt	10TX
Histamine	19NH
Histamine dihydrochloride	19NH
Histamine diphosphate	19NH
Histidine monohydrochloride	19NH
Histidine, L-	19NH
Histopaque	10TX
Homocysteine	10TX
Hyamine	10TX
Hyamine 1622	10TX
Hydrazine dihydrochloride	10TX
Hydrazine hydrate [#]	02CB
Hydrazine monohydrochloride [#]	15SS
Hydrazine sulfate	10TX
Hydrazine, anhydrous [#]	08FL
Hydrazinobenzene sulfonic acid, p-	03CA
Hydrindantin	10TX
Hydriodic acid	03CA
Hydrobenzene sulfonamide, N-	10TX
Hydrobenzoic acid, m-	03CA
Hydrobromic acid	03CA
Hydrochloric acid	03CA
Hydrocinnamaldehyde	08FL
Hydrocinnamic acid	10TX
Hydrocortisone	10TX
Hydrocyanic acid, liquified	03CA
Hydrofluasilicic acid	03CA
Hydrofluoric acid solution	03CA
Hydrogen (gas)	07CG
Hydrogen fluoride pyridine	03CA
Hydrogen peroxide 3%	19NH
Hydrogen peroxide solution [#]	15SS
Hydrogen sulfide (gas)	07CG
Hydrogen tetrachloroaurate	11TX
Hydroquinone	10TX
Hydroquinone, 2,5-bis-(1,1-dimethylpropyl)-	10TX
Hydroxide of hyamine	08FL
Hydroxy naphthol blue	10TX
Hydroxy-1-(2-hydroxy-4-sulfo-1-naphthylazo)-3-naphthoic acid, 2-	10TX
Hydroxy-2-naphthoic acid, 3-	03CA
Hydroxy-3, 5-dimethoxybenzoic acid, 4-	03CA
Hydroxy-3-methoxybenzoic acid, 4-	03CA
Hydroxy-3-methyl benzoic acid, 2-	19NH
Hydroxy-3-methyl-2-butanone, 3-	10TX
Hydroxy-3-naphthaldehyde, 2-	10TX
Hydroxy-4-methyl-2-pentanone, 4-	08FL

*Explosion hazard

[#]Highly reactive

^vMay form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Hydroxy-5-sulfophenyl-3-phenyl-5-formazano-benzoic acid, 2-	10TX
Hydroxy-7-iodo-5-quinolenesulfonic acid, 8-	03CA
Hydroxyacetic acid	03CA
Hydroxyacetophenone, 3-	10TX
Hydroxyadipaldehyde, 2-	10TX
Hydroxyapatite	19NH
Hydroxyazobenzenbenzoic acid, 2,4'-	10TX
Hydroxybenzaldehyde, 4-	10TX
Hydroxybenzene	08FL
Hydroxybenzene sulfonamide, N-	10TX
Hydroxybenzeneacetic acid, 2-	10TX
Hydroxybenzoic acid	10TX
Hydroxybenzoic acid, phenyl ester, 2-	10TX
Hydroxybenzotriazole hydrate	10TX
Hydroxybutyric acid, 4-, sodium salt	10TX
Hydroxycoumarin, 7-	10TX
Hydroxydiphenyl, p-	10TX
Hydroxydiphenylamine, 3-	10TX
Hydroxyethyl disulfide, 2-	10TX
Hydroxyethyl ether, 2-	08FL
Hydroxyethyl methacrylate, 2-	10TX
Hydroxyethyl morpholine, N-	10TX
Hydroxyethylpiperazine	10TX
Hydroxyindole-3-acetic acid, 5-	10TX
Hydroxyl ammonium sulfate	03CA
Hydroxylamine	14WS
Hydroxylamine hydrochloride	03CA
Hydroxylamine sulfate	03CA
Hydroxylbenzoic acid, p-	03CA
Hydroxymercuric benzoate, p-	11TX
Hydroxy-methoxy benzaldehyde	10TX
Hydroxymethyl mercury	11TX
Hydroxy-naphthaldehyde, 2-	10TX
Hydroxynaphthalimide, sodium salt	10TX
Hydroxynaphthol blue, disodium salt	10TX
Hydroxyphenyl propionate	10TX
Hydroxyphenyl sulfide	10TX
Hydroxyproline	19NH
Hydroxypropyl methacrylate, 2-	10TX
Hydroxyquinoline	10TX
Hydroxyquinoline hemisulfate hemihydrate, 8-	10TX
Hydroxystearic acid, 12-	10TX
Hydroxytriaminopyrimidine sulfate	10TX
Hydroxytryptamine creatinine sulfate	10TX
Hydroxytyramine hydrobromide, 3-	10TX
Hydroxytyramine, 3- hydrochloride	10TX
Hypaque	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Hypophosphorous acid	03CA
Hypoxanthine	10TX
Ichthammol	10TX
Imidazole	02CB
Iminodiacetic acid	10TX
Iminodiethanol, 2,2'-	08FL
Iminothiolane, 2-	10TX
Indalone	10TX
Indantrione, 1,2,3-	10TX
Indene	10TX
Indeno 1,2,3-cd pyrene	10TX
Indigo	10TX
Indigo carmine	10TX
Indium	09FS
Indole	10TX
Indole butyric acid, 3-	10TX
Indole propionic acid, 3-	10TX
Indole-3-acetic acid	10TX
Indoleglyoxylic acid, 3-	10TX
Indoline	08FL
Indolylacetonitrile, 3-	10TX
Inosine	10TX
Inosine triphosphate	10TX
Inosine-5' triphosphate	10TX
Inositol	19NH
Insulin	19NH
Inulin	19NH
Iodic acid	17OX
Iodine	11TX
Iodine monochloride	03CA
Iodoacetamide	10TX
Iodoacetamide, 2-	10TX
Iodoacetamido anilino naphthalene-6 sulfonic acid	10TX
Iodoacetamido) anilino-6-sulfonic acid, 2-(4-	10TX
Iodoacetamidoethyl) amino naphthalene-1-sulfonic acid, 5-(10TX
Iodoacetamidofluorescein, 6-	10TX
Iodoacetamidosalicylic acid, 5-	10TX
Iodoacetic acid	03CA
Iodobenzene	08FL
Iodobenzoic acid	10TX
Iodobiphenyl, 4-	10TX
Iodobutane	08FL
Iododecane, 1-	08FL
Iodoform	10TX
Iodomethane	10TX
Iodonitrotetrazolium violet formazan, p-	10TX
Iodopropene, 3- (allyliodide)	08FL

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Iodopropionic acid, beta-	03CA
Iodotoluene, o-	08FL
Iodotrimethylsilane	14WS
Ionox® 20 antioxidant	10TX
Iridium	11TX
Iron	11TX
Iron (III) acetylacetonate	10TX
Iron (III) iodide	11TX
Iron dextran	11TX
Iron hematoxylin	11TX
Iron II sulfate	11TX
Iron oxide saccharated	11TX
Iron pentacarbonyl	08FL
Iron phosphate	11TX
Iron(III) perchlorate	15SS
Isatin	10TX
Isatin (o-aminobenzoyl formic anhydride)	10TX
Isethionic acid, ammonium salt	10TX
Isethionic acid, sodium salt	10TX
Isoamyl acetate	08FL
Isoamyl alcohol	08FL
Isoamyl nitrate	17OX
Isoamylamine	08FL
Isoborneol	10TX
Isobutanol (isobutyl alcohol)	08FL
Isobutyl acetate	08FL
Isobutyl alcohol	08FL
Isobutyl chlorocarbonate	14WS
Isobutyl chloroformate	14WS
Isobutyl formate	08FL
Isobutyl vinyl ether	08FL
Isobutylamine	08FL
Isobutylbenzene	08FL
Isobutyric acid	03CA
Isocitric dehydrogenase	19NH
Isoeugenol	10TX
Isoleucine	19NH
Isoniazid	10TX
Isonicotinic acid	10TX
Isonicotinic hydrazide	10TX
Isooctane	08FL
Isoorotic acid	10TX
Isopentyl alcohol	08FL
Isopentyl hexanoate	10TX
Isopentyl salicylate	10TX
Isophorone	08FL
Isophthalaldehyde	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Isophthalic acid	10TX
Isophthaloyl chloride	14WS
Isoprene	08FL
Isopropanol	08FL
Isopropenyl acetate	08FL
Isopropoxyphenyl-N-methylcarbamate, o-	10TX
Isopropyl acetate	08FL
Isopropyl acetone	08FL
Isopropyl alcohol	08FL
Isopropyl carbanilate	10TX
Isopropyl ether [∇]	15SS
Isopropyl nitrate	08FL
Isopropyl sulfide	08FL
Isopropylamine	08FL
Isopropylamino)-3-(1-naphthoxy)-2-propanol HCl, 1-(10TX
Isopropylaniline, p-	08FL
Isopropylbenzaldehyde, p-	08FL
Isopropylcyclohexylamine, N-	08FL
Isopropyl-N-(3-chlorophenyl) carbamate	10TX
Isoproterenol	10TX
Isoproterenol hydrochloride	10TX
Isoquinoline	10TX
Isosafrole	10TX
Isovaleraldehyde	08FL
Isovaleric acid	03CA
Isovalerylglycine	10TX
Itaconic acid	10TX
Kaolin	19NH
Kasil MR-40 (contains potassium silicate)	11TX
Kelthane	10TX
Kepone	10TX
Keratin	19NH
Kerosene	08FL
Ketamine hydrochloride	10TX
Kodak D-76 developer	02CB
Lacmoid	10TX
Lactalbumin	10TX
Lactate dehydrogenase	19NH
Lactic acid	10TX
Lactic dehydrogenase	19NH
Lactonitrile	08FL
Lactose, alpha-	19NH
Lanthanum chloride anhydrous	11TX
Lanthanum nitrate hexahydrate	17OX
Lanthanum oxide	11TX
Lard	19NH
Larvin LE (thiodicarb)	10TX

*Explosion hazard

#Highly reactive

[∇]May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Lasiocarpine	10TX
Lasso	10TX
Lauric acid	10TX
L-Dopa	19NH
Lead	11TX
Lead acetate	11TX
Lead arsenate, solid	11TX
Lead bromide	11TX
Lead carbonate	11TX
Lead chloride	11TX
Lead chromate	11TX
Lead citrate	11TX
Lead cyanide	11TX
Lead dioxide	17OX
Lead fluoborate	11TX
Lead iodide	11TX
Lead nitrate	17OX
Lead oxide	11TX
Lead perchlorate	15SS
Lead peroxide (PbO ₂)	15SS
Lead phosphate	11TX
Lead sesquioxide	11TX
Lead subacetate	11TX
Lead sulfate	11TX
Lead sulfide	11TX
Lead tartrate	11TX
Lead tetraacetate	11TX
Lead tetroxide (Pb ₃ O ₄)	11TX
Leucine L-	19NH
Leucomycin adipate	10TX
Levamisole hydrochloride	10TX
Levulinic acid	03CA
Light green SF	10TX
Ligroin	08FL
Limonene dioxide	08FL
Limonene, D-	08FL
Lindane	10TX
Linoleic acid	10TX
Linseed oil	10TX
Linuron	10TX
Liquifluor	08FL
Litharge	11TX
Lithium 3,5-diiodosalicylate	11TX
Lithium acetate	10TX
Lithium acetate dihydrate	10TX
Lithium Acetylde	14WS
Lithium aluminum	14WS

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Lithium aluminum hydride [#]	14WS
Lithium bis(trimethylsilyl)amide	14WS
Lithium bromide anhydrous	11TX
Lithium carbonate	10TX
Lithium chloride	11TX
Lithium citrate	10TX
Lithium dichromate	11TX
Lithium fluoride	11TX
Lithium hydride [#]	14WS
Lithium hydroxide	02CB
Lithium hydroxide monohydrate	02CB
Lithium lactate	10TX
Lithium magnesium	11TX
Lithium nitrate	17OX
Lithium oxalate	11TX
Lithium perchlorate trihydrate	17OX
Lithium pyruvate	10TX
Lithium salicylate	10TX
Lithium sulfate	11TX
Lithium, metal	14WS
Lithopone	11TX
Litmus powder	19NH
Lloyd reagent (hydrated aluminum silicate)	11TX
L-phosphatidyl choline	19NH
L-phosphatidyl choline	19NH
Lucidril (dimethylaminoethyl-4-chlorophenoxy acetate)	10TX
Luminol	10TX
Lupinidine	10TX
Lusozyme	19NH
Lustran	10TX
Lutidine	08FL
Luxol fast blue	10TX
Lympholite - M	19NH
Lyphogel	19NH
Lysine monohydrochloride, L-	19NH
Lysine, L-	19NH
Machete	10TX
Magnesium acetate tetrahydrate	19NH
Magnesium bromide	11TX
Magnesium carbonate hydroxide pentahydrate	11TX
Magnesium chloride	19NH
Magnesium fluoride	11TX
Magnesium hydroxide	02CB
Magnesium nitrate	17OX
Magnesium nitrate hexahydrate	17OX
Magnesium nitride	14WS
Magnesium oxide	11TX

*Explosion hazard

[#]Highly reactive

^vMay form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Magnesium perchlorate	17OX
Magnesium reagent	11TX
Magnesium sulfate	19NH
Magnesium sulfide	11TX
Magnesium, metal	14WS
Malachite green oxalate	10TX
Malathion	10TX
Maleic (acid) hydrazide	10TX
Maleic acid	03CA
Maleic anhydride	03CA
Malic acid	10TX
Malic dehydrogenase	19NH
Malonaldehyde	10TX
Malonaldehyde bis(diethyl acetal)	08FL
Malonaldehyde bis(dimethyl acetal)	08FL
Malonamide	10TX
Malonic acid	10TX
Malonic ester	08FL
Malononitrile	08FL
Malonyl dichloride	14WS
Maltose monohydrate, D-	19NH
Mandelic acid	10TX
Maneb	09FS
Manganese	14WS
Manganese (II) carbonate	11TX
Manganese (II) chloride anhydrous	11TX
Manganese (II) chloride tetrahydrate	11TX
Manganese (II) nitrate hexahydrate	17OX
Manganese (II) nitrate hydrate	17OX
Manganese (II) sulfate hydrate	11TX
Manganese (II) sulfate monohydrate	11TX
Manganese (III) oxide	11TX
Manganese chloride	11TX
Manganese dioxide	08FL
Mannitol, D-	19NH
Manzate	09FS
Marble's reagent (10% cupric sulfate, 50% HCl)	03CA
Martius yellow	10TX
MDI (Methylene bis[phenyl isocyanate])	14WS
Megasul (N,N-dinitrodiphenyl disulfide)	10TX
Meglumine diatrizoate	10TX
Melamine	10TX
Melphalan	10TX
Menthol, (DL)-	08FL
Mercapto-1,2-propanediol, 3-	08FL
Mercapto-4-methylthiophenol, 2-	10TX
Mercaptoacetic acid	03CA

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Mercaptobenzoic acid	10TX
Mercaptobenzothiazole, 2-	10TX
Mercaptoethanol, 2-	08FL
Mercaptoethylamine hydrochloride	10TX
Mercaptomethanol	08FL
Mercaptopropionic acid, 3-	03CA
Mercaptopyridine, 2-	08FL
Mercaptosuccinic acid	03CA
Mercuric (II) nitrate	11TX
Mercuric acetate	11TX
Mercuric bromide	11TX
Mercuric chloride	11TX
Mercuric cyanide	11TX
Mercuric dichromate	17OX
Mercuric iodide	11TX
Mercuric nitrate	17OX
Mercuric oleate	11TX
Mercuric oxide	11TX
Mercuric oxide red	11TX
Mercuric oxide yellow	11TX
Mercuric oxycyanide	11TX
Mercuric potassium iodide	11TX
Mercuric salicylate	11TX
Mercuric succinimide	11TX
Mercuric sulfate	11TX
Mercuric sulfide	11TX
Mercuric thiocyanate	11TX
Mercurochrome	11TX
Mercurous chloride (mercury chloride)	11TX
Mercurous nitrate	17OX
Mercurous oxide	11TX
Mercurous sulfate, solid	11TX
Mercury (I) iodide	11TX
Mercury (II) iodide	11TX
Mercury contaminated labware	11TX
Mercury fulminate*	15SS
Mercury tamer clean-up kit (contains mercuric sulfate)	11TX
Mercury, metallic	11TX
Merthiolate	11TX
Mesityl oxide	08FL
Mesitylene	08FL
Metaldehyde	10TX
Metanil yellow	10TX
Metaphosphoric acid (phosphoric acid, meta-)	03CA
Met-a-terge	10TX
Methacholine chloride	10TX
Methacrylic acid	03CA

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Methacrylonitrile	08FL
Methacryloyl chloride	14WS
Methallyl chloride	08FL
Methane (gas)	07CG
Methanesulfonic acid	03CA
Methanesulfonic acid, ethyl ester	10TX
Methanesulfonyl chloride	14WS
Methanol	08FL
Methapyrilene	10TX
Methenamine	09FS
Methiodal sodium	10TX
Methionine	19NH
Methionine sulfone	10TX
Methomyl	10TX
Methone (5,5-dimethylcyclohexane-1,3-dione)	10TX
Methotrexate	10TX
Methoxy-1-butanol, 3-	08FL
Methoxy-2-nitroaniline, 4-	10TX
Methoxy-5-nitroaniline, 2-	10TX
Methoxyacetic acid	03CA
Methoxyacetophenone	10TX
Methoxybenzaldehyde, o- (anisaldehyde, o-)	10TX
Methoxybenzaldehyde,4- (anisaldehyde, p-)	10TX
Methoxybenzenethiol	10TX
Methoxybenzoic acid, all isomers	10TX
Methoxy-beta-naphthylamine, 4-	10TX
Methoxycyclohexanol, 2-	08FL
Methoxycyclohexanol, 4-	08FL
Methoxyethanol, 2-	08FL
Methoxyethyl acetate, 2-	08FL
Methoxyethyl ether	08FL
Methoxyethyl phthalate, beta-	10TX
Methoxyethylamine	08FL
Methoxyethylether, bis-	08FL
Methoxyphenol, all isomers	10TX
Methyindole,1-	08FL
Methyl acetate	08FL
Methyl acetoacetate	08FL
Methyl acrylamide	10TX
Methyl acrylate	08FL
Methyl alcohol	08FL
Methyl aniline	08FL
Methyl aniline,N-	08FL
Methyl anisate	08FL
Methyl anisole, o-	08FL
Methyl azoxy methanol	08FL
Methyl benzoate	08FL

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Methyl bromide	07CG
Methyl bromide, liquid	08FL
Methyl bromoacetate	08FL
Methyl caprolactim, o-	10TX
Methyl carbamate	10TX
Methyl cellosolve	08FL
Methyl cellulose	19NH
Methyl chloride (gas)	07CG
Methyl chloroacetate	08FL
Methyl chloroformate	14WS
Methyl cinnamate	08FL
Methyl cyclohexane	08FL
Methyl cyclohexanone	08FL
Methyl ethyl ketone	08FL
Methyl ethyl ketone peroxide	15SS
Methyl fluorescein, 3-o-	10TX
Methyl formamide, N-	08FL
Methyl formate	08FL
Methyl furan	08FL
Methyl gallate	10TX
Methyl green	10TX
Methyl isoamyl ketone	08FL
Methyl isobutyl ketone	08FL
Methyl isobutyrate	08FL
Methyl isocyanate	08FL
Methyl lactate	14WS
Methyl laurate	19NH
Methyl lithium	14WS
Methyl mercaptan (methanethiol)	08FL
Methyl mercury	11TX
Methyl mercury hydroxide	11TX
Methyl methacrylate	08FL
Methyl methanesulfonate	10TX
Methyl methanethiolsulfonate	08FL
Methyl nonanoate (methyl pelargonate)	10TX
Methyl octanoate	10TX
Methyl oleate	10TX
Methyl orange	10TX
Methyl orange sodium salt	10TX
Methyl palmitate	19NH
Methyl parathion, liquid	10TX
Methyl phthalate	10TX
Methyl phthalyl ethyl glycolate	08FL
Methyl p-hydroxybenzoate	10TX
Methyl picolinate	08FL
Methyl propionate	08FL
Methyl p-toluenesulfonate	10TX

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Methyl pyrrolidone, N-	08FL
Methyl red	10TX
Methyl salicylate	10TX
Methyl silicate	10TX
Methyl stearate	10TX
Methyl sulfide	08FL
Methyl sulfoxide	10TX
Methyl tert-butyl ether	08FL
Methyl vinyl ether	15SS
Methyl violet	10TX
Methyl violet 2B	10TX
Methyl yellow	10TX
Methyl-1,4-naphthoquinone, 2-	10TX
Methyl-1-butanol, 2-	08FL
Methyl-1-butanol, 3-	08FL
Methyl-1-pentyn-3-ol,3-	08FL
Methyl-1-phenyl-2-pyrazolin-5-one,3-	10TX
Methyl-1-propanol, 2- (isobutyl alcohol)	08FL
Methyl-2,2,4-trimethyl-3-oxovalerate	10TX
Methyl-2,4-pentanediol, 2-	10TX
Methyl-2-benzothiazinone hydrazone hydrochloride, 3-	10TX
Methyl-2-butanone, 3-	08FL
Methyl-2-butene, 2-	08FL
Methyl-2-hexanol, 2-	08FL
Methyl-2-hexanone, 5-	08FL
Methyl-2-methyl-2-norborane carboxylate	10TX
Methyl-2-nitro-1,3-propandiol	10TX
Methyl-2-pentanol, 2-	08FL
Methyl-2-pentanol, 4-	08FL
Methyl-2-pentanone, 4-(isopropylacetone)	08FL
Methyl-2-pentanone, 4-(methyl isobutyl ketone)	08FL
Methyl-2-propanethiol, 2-	08FL
Methyl-2-pyrrollidone, 1-	08FL
Methyl-2-pyrrolidinone, N-	08FL
Methyl-2-thiouracil, 6-	10TX
Methyl-3-butyn-1-ol, 2-	08FL
Methyl-4-piperadone, 1-	10TX
Methyl-5-acetylsalicylate	10TX
Methyl-5-nitroaniline, 2-	10TX
Methylacetophenone, p-	08FL
Methylal	08FL
Methyl-alpha D-mannopyranoside	08FL
Methylamindacetaldehyde	10TX
Methylamine hydrochloride	10TX
Methylamine, anhydrous, gas	07CG
Methylamine, aqueous solution	08FL
Methylaminoethanol, N-	08FL

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Methylaminophenol sulfate, p-	10TX
Methylaminophenol, p-	10TX
Methylaniline, N-	08FL
Methylanthraquinone, 2-	10TX
Methylaziridine, 2-	08FL
Methylbenzethonium hydroxide	10TX
Methylbenzophenone, 4-	10TX
Methylbenzoxazole, 2-	02CB
Methylbenzyl alcohol	08FL
Methylbenzylamine, DL-	02CB
Methylbutane, 2-	08FL
Methylbutyric acid, 2-	03CA
Methylcatechol, 4-	10TX
Methylcholanthrene	10TX
Methylcyclohex-1-ene, 4-	08FL
Methylcyclohexane	08FL
Methylcyclohexanol	08FL
Methylcyclohexanone	08FL
Methylcyclohexylphenylurea	11TX
Methyl-D-glucoside, alpha-	19NH
Methyldichlorosilane	14WS
Methyldiethanolamine, N-	10TX
Methyl-D-mannoside, alpha	19NH
Methylene blue	10TX
Methylene chloride	10TX
Methylene disalicylic acid, 5,5'-	03CA
Methylene iodide	08FL
Methylene isobutyl ketone (Methyl-2-pentanone)	08FL
Methylenebis(2-chloroaniline), 4,4'-	10TX
Methylenebis-acrylamide, N, N'-	10TX
Methylenedianiline, 4,4-	10TX
Methylenedioxybenzene, 1,2-	08FL
Methylformanilide, N-	08FL
Methylglucamine, N-	10TX
Methylglyoxal	08FL
Methylguanosine, 7-	10TX
Methylhydrazine	15SS
Methylimidazole, 2-	03CA
Methylactonitrile, 2-	08FL
Methylmorpholine, 4-	08FL
Methyl-N-(3-methylbutyl)-2-heptylamine, 6-	08FL
Methylnaphthalene, 1-	08FL
Methylnitrobenzoate, m-	10TX
Methyl-N'-nitro-N-nitrosoguanidine, N-	09FS
Methyl-N-nitroso urea, N-	10TX
Methyl-N-nitrosoaniline, N-	10TX
Methyloctadecylamine, N-	10TX

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Methylparaben	10TX
Methylphenarsazine	03CA
Methylphenazonium methosulfate, N-	10TX
Methylpiperidine, 1-	08FL
Methyl-p-nitroaniline, N-	10TX
Methyl-p-toluenesulfonate	10TX
Methylpyrazine, 2-	08FL
Methylpyridine, 4-	08FL
Methylpyrrolidine, N-	08FL
Methylsuccinic acid	10TX
Methylthiobutanoate	08FL
Methylthio-m-cresol, 4-	10TX
Methylthiophenol, 4-	10TX
Methyltrioctylammonium chloride	10TX
Methylumbelliferone, 4-	10TX
Methylurea	10TX
Methylvaleraldehyde, 3-	08FL
Metribuzin	10TX
Metrizamide	10TX
Mild silver protein	10TX
Millipore activator solution (contains acetonitrile, 1-h-tetrazole)	08FL
Millipore amidite diluent (contains acetonitrile)	08FL
Millipore CAP B solution (contains tetrahydrofuran, pyridine, 1-methylimidazole)	08FL
Millipore oxidizer solution (contains iodine, pyridine, tetrahydrofuran)	08FL
Millipore TBPA CAP A solution (t-butylphenoxyacetic anhydride tetrahydrofuran)	08FL
Mineral oil	08FL
Mineral spirits	08FL
Mithramycin	08FL
Mitomycin C	10TX
MN cellulose powder	19NH
Molybdenum	11TX
Molybdenum trioxide	11TX
Molybdic acid	11TX
Monacetin	08FL
Monochloroacetic acid	03CA
Monomethylamino phenol sulfate, p-	10TX
Monothioglycerol	10TX
Mordant orange	19NH
Morin hydrate	10TX
Morpholine	08FL
Morpholineethanesulfonic acid hydrate, 4- (MES)	10TX
Mossy tin	11TX
MTT	10TX
MTT waste (contains 3-(4,5-dimethylthiazole-2-yl)-2 & 5-diphenyl-2H-tetrazolium bromide	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Mucosol	10TX
Muramic acid	03CA
Murexide	10TX
Myristic acid	10TX
Myristoyl chloride	14WS
N-(1-naphthyl)ethylenediamine dihydrochloride	10TX
N-(1-pyrenyl) iodoacetamide	10TX
N-(2-bromoethyl)phthalimide	10TX
N-(3-pyrene)-maleimide	10TX
N-(p-hydroxyphenyl)glycine	10TX
N,bromo succinimide	10TX
N,N-dimethyl-1-naphthylamine	10TX
N,N-p-phenylenedimaleimide	10TX
N-1-(Naphthyl)ethylenediamine dihydrochloride	10TX
N-1-pyrene iodoacetamide	10TX
N-4 dimethylamino-3, S-dinitrophenyl	10TX
N6-ethenoadenosine, 1-	10TX
N6-ethenoadenosine-5'-diphosphate, 1-	10TX
N-acetyl l-cysteine	10TX
N-acetyl tyrosinamide	10TX
N-acetyl-D-galactosamine	19NH
N-acetylimidazole	10TX
N-acetyl-l-tryptophanamide	10TX
Nadic methyl anhydride (NMA)	10TX
Naphtha (Benzin)	08FL
Naphthaldehyde, 1-	10TX
Naphthalene	10TX
Naphthalene-6-sulfonic acid	10TX
Naphthalenediol, 1,3-	10TX
Naphthalenesulfonic acid, 1-	03CA
Naphthalenesulfonyl chloride, 1-	14WS
Naphthalenesulfonyl chloride, 2-	03CA
Naphthoflavone	19NH
Naphthoic acid, 1-	03CA
Naphthol	10TX
Naphthol acetate	10TX
Naphthol AS phosphate	10TX
Naphthol benzoate	10TX
Naphthol bisulfate	10TX
Naphthol blue	10TX
Naphthol blue black (Acid black)	10TX
Naphthol chloroacetate	10TX
Naphthol phosphate	10TX
Naphthol phosphoric acid	10TX
Naphthol yellow S	10TX
Naphthol-bi-N-acetyl-D-glucosaminide	10TX
Naphthol-D-glucuronic acid	10TX

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Naphthoquinone 4-sulfonic acid potassium salt, 1,2-	10TX
Naphthoquinone, 1,2-	10TX
Naphthoquinone, 1,4-	10TX
Naphthoquinone-4-sulfonic acid sodium salt, 1,2-	10TX
Naphthoxyacetic acid, beta-	10TX
Naphthyl acetate, alpha-	10TX
Naphthyl acetonitrile	10TX
Naphthyl acid phosphate, alpha-	10TX
Naphthyl isocyanate, 1-	14WS
Naphthyl isocyanate, alpha-	14WS
Naphthyl isothiocyanate	10TX
Naphthylacetamide, alpha-	10TX
Naphthylacetic acid, 1-	03CA
Naphthylacetic acid, 2-	03CA
Naphthylamine hydrochloride	10TX
Naphthylamine, 1-	10TX
Naphthylamine, alpha-	10TX
Naphthylamine, beta-	10TX
Naphthylene acetic acid, 1-	03CA
Naphthylhydrazine hydrochloride, 1-	10TX
Naphthylthiourea, alpha-	10TX
Naproxen	10TX
Naptalam	10TX
Naphthyl acetate, 1-	10TX
N-benzoyl-L-arginine ethylester	10TX
N-benzoyl-L-tyrosine ethylester	10TX
NCS tissue solubilizer (0.6N quaternary ammonia in toluene)	08FL
Neocinchophen	10TX
Neocuproine hydrate	10TX
Neodymium chloride hexahydrate	11TX
N-ethyl-1-naphthylamine	10TX
Neutral red	10TX
New methylene blue (basic blue)	10TX
Newsorb waste (acetic acid, methanol, acetonitrile)	08FL
Niacinamide (Nicotinamide)	19NH
Nickel	11TX
Nickel (II) acetate tetrahydrate	11TX
Nickel (II) ammonium sulfate hexahydrate	11TX
Nickel (II) carbonate hydroxide tetrahydrate	11TX
Nickel (II) chloride hexahydrate	11TX
Nickel (II) chloride, anhydrous	11TX
Nickel (II) cyanide	11TX
Nickel (II) nitrate hexahydrate	17OX
Nickel (II) oxide	11TX
Nickel (II) phosphate	11TX
Nickel (II) sulfate heptahydrate	11TX
Nickel (II) sulfate hexahydrate	11TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Nickel carbonyl	08FL
Nickel chloride hexahydrate	11TX
Nickel formate	11TX
Nickelous chloride	11TX
Niclosamide	10TX
Nicotinamide	19NH
Nicotinamide adenine dinucleotide (NAD)	03CA
Nicotinamide adenine dinucleotide phosphate	19NH
Nicotine sulfate	10TX
Nicotine, L-	10TX
Nicotinic acid	19NH
Nigrosin	10TX
Nile blue A	10TX
Ninhydrin	10TX
Niobium	11TX
Niobium (v) oxide	11TX
Niobium pentachloride	14WS
N-iodo acetoxy ethyl-N-methyl amino-7 nitrobenz-2-oxa-diazole	10TX
Nitric acid (<40%;>40%;fuming)	16NA
Nitric oxide	07CG
Nitrioltri-2-propanol, 1,1',1'-	10TX
Nitrioltriacetic acid	03CA
Nitrioltriethanol, 2,2,2-	10TX
Nitro blue tetrazolium chloride monohydrate	10TX
Nitro-1,2-diaminobenzene	10TX
Nitro-3-(trifluoromethylphenol), 4- (TFM)	10TX
Nitroacetanilide, m-	10TX
Nitroacetanilide, p-	10TX
Nitroacetophenone, p-	10TX
Nitroaniline, m-	10TX
Nitroaniline, p-	10TX
Nitroanisole, o-	10TX
Nitroanisole, p-	10TX
Nitrobarbituric acid trihydrate, 5-	03CA
Nitrobenzaldehyde, all isomers	10TX
Nitrobenzene*	10TX
Nitrobenzeneazo-alpha-naphthol, p-	10TX
Nitrobenzenesulfonyl chloride, m-	03CA
Nitrobenzenesulfonyl chloride, p-	14WS
Nitrobenzoic acid, all isomers	03 CA
Nitrobenzoic hydrazide, m-	10TX
Nitrobenzoic, acid, 3-	10TX
Nitrobenzoyl chloride, p-	03CA
Nitrobenzyl alcohol, p-	10TX
Nitrobenzylpyridine, 4-(p-	10TX
Nitrobiphenyl, 4-	10TX
Nitrocatechol sulfate dipotassium salt hydrate, p-	10TX

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Nitrocatechol, 4-	10TX
Nitrocellulose (pyroxylin)*	15SS
Nitroethane*	08FL
Nitrofluorene-2	10TX
Nitrogen	07CG
Nitrogen dioxide	07CG
Nitroglycerine*	15SS
Nitromethane*	08FL
Nitrophenol	10TX
Nitrophenyl acetate, p-	10TX
Nitrophenyl hydrazine, p-	15SS
Nitrophenyl phosphate, disodium salt hexahydrate	10TX
Nitrophenyl sulfate, p-	10TX
Nitrophenyl trifluoroacetate, p-	10TX
Nitrophenylazo)-1-naphthol, 4-(p-	10TX
Nitrophenylazoresorcinol, m-4-	10TX
Nitrophenylphosphordichloridate, p-	14WS
Nitrophenylsulfenyl chloride, m-	14WS
Nitrophthalic acid, 3-	10TX
Nitrophthalic anhydride, 3-	10TX
Nitropropane, 1-	08FL
Nitropropane, 2-	15SS
Nitrosalicylic acid, 5-	03CA
Nitroso guanidine	15SS
Nitroso-2-naphthol, 1-	10TX
Nitroso-2-naphthol-3,6-disulfonic acid, disodium salt	10TX
Nitrosodiethanolamine, N-	10TX
Nitrosodiethylamine, N-	10TX
Nitrosodimethylamine, N-	08FL
Nitrosodimethylaniline, p-	11TX
Nitrosodi-N-butylamine	10TX
Nitrosodi-N-propylamine	08FL
Nitroso-N-ethylurea, N-	10TX
Nitroso-N-methyl urea, N-	10TX
Nitroso-N-methylurethane, N-	10TX
Nitroso-N-methylvinylamine, N-	08FL
Nitrosopiperidine, N-	10TX
Nitroso-R salt	10TX
Nitrostilbene,2-	10TX
Nitrostyrene,beta-	10TX
Nitrosylsulfuric acid	03CA
Nitrotoluene, all isomers	10TX
Nitrous oxide	07CG
N-lauroylsarcosine	10TX
NMA (Nadic methyl anhydride)	10TX
N-methylbis(2-chloroethyl) amine hydrochloride	10TX
N-methyl-N-nitro-N-nitroso-guanidine	09FS

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
N-methylpiperidine	08FL
Nonane	08FL
Nonanone, 5-	08FL
Nonenylsuccinic anhydride	10TX
Nonylamine, N-	08FL
Norborene- endo -2, 3-dicarboxylic anhydride (acid), cis-, 5-	10TX
Norborene-2-methanol, 5-	10TX
Norbornylene	08FL
Nordihydroxyguaiaretic acid	10TX
N-tosyl phenylalanine chloro-methyl ketone	10TX
N-tris(hydroxymethyl)methyl-2-amino-ethanesulfonic acid	03CA
Nuclear fast red	10TX
Nucleoside phosphorylase	19NH
Octachlorodibenzo-p-dioxin	10TX
Octadecane	10TX
Octadecanol, 1-	10TX
Octadecene, 1-	08FL
Octadecylamine	02CB
Octamethylcyclotetrasiloxane	14WS
Octamethylpyrophosphoramidate	10TX
Octamylamine	08FL
Octane	08FL
Octanesulfonic acid sodium salt, 1-	10TX
Octanethiol, 1-	10TX
Octanoic acid	03CA
Octanol, 1-	08FL
Octanol, 2-	08FL
Octanone, 2-	08FL
Octyl alcohol	08FL
Octyl aldehyde	08FL
Octyl bromide, N-	10TX
Octyl ether	10TX
Octyl sulfate, sodium salt	10TX
Octylamine, N-	08FL
Octylamine, tert-	08FL
Oil red	08FL
Oil, chiller (Freon)	08FL
Oil, used	08FL
Oleic acid	03CA
Omnifluor	10TX
Omnifluor (PPO)	10TX
Orcein	10TX
Orcinol monohydrate	10TX
Ordram BEC	10TX
Orescein 5-maleimide	10TX
Orotic acid	10TX
Osmic acid (Osmium tetroxide)	03CA

*Explosion hazard

#Highly reactive

^vMay form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Osmium	11TX
Osmium tetroxide	03CA
O-tolunitrile	08FL
Oxabicyclo[2.2.1]hept-5-ene-2,3-dicarboxylic anhydride, 7-	10TX
Oxalic acid	03CA
Oxalyl chloride	14WS
Oxalyl hydrazide	10TX
Oxethazine	10TX
Oxindole	10TX
Oxirane, 2, 2-difluoro-3,3-bis(trifluoromethyl)-	10TX
Oxone	17OX
Oxydiethanethiol, 2,2'-	08FL
Oxyquinoline sulfate	10TX
Palladium	11TX
Palladium (II) chloride (5 wt. %)	11TX
Palladium chloride (99%)	11TX
Palmitic acid	10TX
Pancreatin	19NH
Pantothenol	10TX
Papain	19NH
Paradione	08FL
Paraffin	19NH
Paraffin oil (Mineral oil)	08FL
Paraformaldehyde	09FS
Parafuchsin	10TX
Paragon iodine titration indicator	10TX
Paraldehyde (2,4,6-trimethyl-S-trioxane)	08FL
Paraperiodic acid	17OX
Paraquat dichloride	10TX
Pararosaniline hydrochloride	10TX
Parathion, liquid	10TX
Paris green	11TX
Parlodion	11TX
Pelargonic acid	03CA
Penicillamine, D-	10TX
Penicillin G	10TX
Pentacarbonyl iron	08FL
Pentachlorobenzene	10TX
Pentachloroethane	10TX
Pentachloronitrobenzene	10TX
Pentachlorophenol	10TX
Pentadecane	08FL
Pentadecanoic acid	10TX
Pentadecylresorcinol, 5-N-	10TX
Pentadiene, 1,3-	08FL
Pentadione, 2,4-	08FL
Pentafluorophenol	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Pentamethylbenzene	09FS
Pentamethylene bromide (Bromopentane)	08FL
Pentamethylene glycol (1,5-Pentanediol)	08FL
Pentamethylene iodide	08FL
Pentane	08FL
Pentanedione, 2,3-	08FL
Pentanedione, 2,4- (Acetylacetone)	08FL
Pentanesulfonic acid sodium salt	14WS
Pentanol	08FL
Pentanone, 2-	08FL
Pentanone, 3-	08FL
Pentene, 1-	08FL
Pentene, cis-2-	08FL
Pentylamine, N-	08FL
Pepsin	19NH
Peracetic acid 40%	15SS
Peracetic acid solution	17OX
Perchloric acid	15SS
Perchloroethylene	10TX
Periodic acid	17OX
Permutit (contains xylene)	08FL
Permutit	10TX
Perthane	10TX
Petroleum ether	08FL
Petroleum spirits	08FL
Phalodin	10TX
Phalloidin	10TX
Phellandrene, alpha-	10TX
Phenacetin	10TX
Phenanthrene	10TX
Phenanthroline monohydrate, 1,10-	10TX
Phenanthroline, 1, 10-	10TX
Phenazine methosulfate	10TX
Phenethyl alcohol	08FL
Phenethyl isothiocyanate	10TX
Phenethylamine, alpha-	08FL
Phenol	10TX
Phenol acid	10TX
Phenol reagent solution	03CA
Phenol red	10TX
Phenoldisulfonic acid	10TX
Phenolphthalein powder	10TX
Phenolsulfonephthalein (PSP)	10TX
Phenolsulfonic acid	03CA
Phenolsulfonic acid, p- , sodium salt	10TX
Phenothiazine	10TX
Phenoxyacetic acid	10TX

*Explosion hazard

#Highly reactive

^vMay form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Phenyl acetyl chloride	14WS
Phenyl benzoate	10TX
Phenyl beta-naphthylamine	10TX
Phenyl biphenyl oxadiazole	10TX
Phenyl carbonate (Diphenyl carbonate)	10TX
Phenyl cellosolve (2-Phenoxyethanol)	15SS
Phenyl dihydrogen phosphate disodium salt	10TX
Phenyl disodium phosphate	10TX
Phenyl ether	10TX
Phenyl fluoride	08FL
Phenyl isocyanate	14WS
Phenyl isothiocyanate	14WS
Phenyl salicylate	10TX
Phenyl sulfoxide	10TX
Phenyl-1,2-propandione-2-oxime, 1-	10TX
Phenyl-1,2-propanedione, 1-	08FL
Phenyl-1,3-butanedione, 1- (1-Benzoylacetone)	10TX
Phenyl-1-propanol, 3-	08FL
Phenyl-2-thiourea, 1-	10TX
Phenyl-3-(4-pyridyl)-propane, 1-	10TX
Phenyl-3-buten-2-one, trans-4-	08FL
Phenylacetaldehyde	08FL
Phenylacetic acid	03CA
Phenylacetone	08FL
Phenylacetonitrile	08FL
Phenylalanine	19NH
Phenylanthralic acid, N-	03CA
Phenylarsine carbazide	10TX
Phenylarsine oxide	10TX
Phenylazoaniline, p-	10TX
Phenylbiguanide hydrochloride	10TX
Phenylcinnamic acid, alpha-	10TX
Phenyldiethanolamine, N-	10TX
Phenylene diisothiocyanate, 1,4-	10TX
Phenylenediamine dihydrochloride, p-	10TX
Phenylenediamine monohydrochloride	10TX
Phenylenediamine, all isomers	02CB
Phenylenediamine, N-phenyl-p-	10TX
Phenylenediaminedihydroxide, p-	10TX
Phenylethylenediamine, N-	10TX
Phenylglycine	10TX
Phenylhydrazine	15SS
Phenylhydrazine hydrochloride	15SS
Phenyllithium	14WS
Phenyllithium (in benzene/ether)	14WS
Phenylmercuric acetate	10TX
Phenylmercuric bromide	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Phenylmercuric chloride	10TX
Phenylmercuric nitrate, basic	10TX
Phenylmercuritriethanol ammonium lactate	10TX
Phenylmethylsulfonyl fluoride	14WS
Phenylphenol sodium salt tetrahydrate, o-	10TX
Phenylphenol, all isomers	10TX
Phenylpropionic acid	10TX
Phenylsulfide	10TX
Phenyltrichlorosilane	14WS
Phenyltrimethylammonium iodide	10TX
Phenylurea (Phenyl carbamide)	10TX
Phenytoin	10TX
Phloroglucinol dihydrate	10TX
Phloxine B	10TX
Phorate	10TX
Phorbol	10TX
Phorbol myristate acetate	10TX
Phosdrin	10TX
Phosgene	07CG
Phosphamidon	10TX
Phosphatidyl-L-serine	19NH
Phosphine	07CG
Phosphoenol pyruvate	19NH
Phosphogluconic acid, 6-	19NH
Phosphomolybdic acid hydrate	17OX
Phosphoramidite, t-	10TX
Phosphoric acid	03CA
Phosphoric acid, meta (HPO ₃)	03CA
Phosphoric anhydride	14WS
Phosphorous acid (H ₃ PO ₃)	03CA
Phosphorous oxychloride	14WS
Phosphorous pentachloride, solid	14WS
Phosphorous pentoxide	14WS
Phosphorous tribromide	14WS
Phosphorous trichloride	14WS
Phosphorous trisulfide	09FS
Phosphorus, amorphous, red	14WS
Phosphorus, white (or yellow), in water	14WS
Phosphorylase kinase	19NH
Phosphotungstic acid hydrate	03CA
Photographic activator	10TX
Photographic developer	02CB
Photographic fixer	10TX
Photographic stabilizer	10TX
Phthalaldehyde	10TX
Phthalic acid	10TX
Phthalic acid dipotassium salt	10TX

*Explosion hazard

#Highly reactive

^vMay form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Phthalic acid, diisobutyl ester	10TX
Phthalic anhydride	10TX
Phthalimide	10TX
Phthalonitrile (1, 2- dicyanobenzene)	10TX
Phthaloyl dichloride	14WS
Phyloxide	10TX
Physostigmine (Eserine)	10TX
Phytohemagglutinin M	10TX
Picoline	08FL
Picolinic acid	03CA
Picolinic acid hydrochloride	10TX
Picolite in xylol 1:1	08FL
Picramic acid, sodium salt	15SS
Picric acid*	15SS
Picric acid 10% solution in water	10TX
Picric acid, wet*	15SS
Picryl sulfonic acid	15SS
Picrylsulfonic acid sodium salt	15SS
Pilocarpine	10TX
Pimelic acid	10TX
Pimelonitrile	10TX
Pinacolone	08FL
Pinene, alpha-	08FL
Pinene, beta-	08FL
Piperazine (diethylenediamine)	02CB
Piperazinebis(ethanesulfonic acid), 1,4- (PIPES)	10TX
Piperazinecarboxaldehyde, 1-	10TX
Piperidine	08FL
Piperonal	10TX
Piperonyl butoxide	10TX
Pivalic acid	10TX
Pivaloyl chloride	14WS
Platinum (IV) chloride	11TX
Platinum (IV) oxide	11TX
PMSF (alpha-Toluenesulfonyl fluoride)	14WS
P-nitrophenyl acetic acid	10TX
Podophyllum	10TX
Poly(dimethylsiloxane) (simethicone)	10TX
Poly(ethyl acrylate)	08FL
Poly(ethylene glycol)	10TX
Poly(ethylene oxide)	10TX
Poly(methyl methacrylate)	10TX
Poly(propylene glycol)	08FL
Poly(sebacic acid)	03CA
Poly(vinyl alcohol)	10TX
Poly(vinyl chloride)	10TX
Poly(vinyl methyl ether)	08FL

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Poly(vinyl pyrrolidone)	10TX
Polyacrylamide	10TX
Polybrene (Hexadimethrine bromide)	10TX
Polybutadiene	10TX
Polychlorinated biphenyls	10TX
Polyethylene	19NH
Polyethylene beads (resin)	19NH
Polyethylene glycol	10TX
Polygalacturonic acid	03CA
Poly-l-lysine	10TX
Polymethyl acrylate	08FL
Polymethylmethacrylate	19NH
Polyoxyethylene ether	10TX
Polyoxyethylene lauryl ether	10TX
Polyphosphoric acid	03CA
Polyram 80 WD (niagara)	10TX
Polysolv reducer (Diethylene glycol dimethyl ether)	08FL
Polystyrene macroporous	10TX
Polyvinyl pyrrolidone	14WS
Polyvinylpolypyrrolidone	10TX
Ponceau S	10TX
Pontacyl violet	10TX
POPOP	10TX
Potassium	14WS
Potassium acetate	19NH
Potassium aluminum sulfate dodecahydrate	11TX
Potassium antimonate, hydrate	11TX
Potassium arsenate	11TX
Potassium arsenite, solid	11TX
Potassium bicarbonate (hydrogen carbonate)	19NH
Potassium bi-iodate (Hydrogen iodate)	17OX
Potassium binoxalate	03CA
Potassium biphthalate (Hydrogen phthalate)	10TX
Potassium bitartrate	19NH
Potassium borohydride [#]	14WS
Potassium bromate	17OX
Potassium bromide	19NH
Potassium carbonate	19NH
Potassium chlorate	17OX
Potassium chloride	19NH
Potassium chromate	17OX
Potassium citrate	19NH
Potassium cyanate	11TX
Potassium cyanide	11TX
Potassium dichloroisocyanurate	17OX
Potassium dichromate	17OX
Potassium ethyl xanthate	10TX

*Explosion hazard

[#]Highly reactive

^vMay form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Potassium ferricyanide	11TX
Potassium ferrocyanide trihydrate	11TX
Potassium fluoride	03CA
Potassium gluconate	19NH
Potassium hexachloroplatinate	11TX
Potassium hydrogen oxalate	03CA
Potassium hydrogenphthalate	10TX
Potassium hydrogentartrate	19NH
Potassium hydroxide	02CB
Potassium iodate	17OX
Potassium iodide	19NH
Potassium metabisulfite	03CA
Potassium nitrate*	17OX
Potassium nitrite	17OX
Potassium nitroferricyanide	11TX
Potassium oxalate monohydrate	10TX
Potassium perchlorate	15SS
Potassium periodate	17OX
Potassium permanganate	17OX
Potassium peroxymonosulfate	17OX
Potassium persulfate	17OX
Potassium phosphate, dibasic	19NH
Potassium phosphate, tribasic	19NH
Potassium phthalamide	10TX
Potassium pyroantimonate acid	11TX
Potassium pyroantimoniate	11TX
Potassium pyrosulfate	03CA
Potassium selenocyanate	11TX
Potassium silicate	02CB
Potassium silver cyanide	11TX
Potassium sodium tartrate tetrahydrate	10TX
Potassium sulfate	19NH
Potassium sulfide	11TX
Potassium sulfite	11TX
Potassium superoxide	17OX
Potassium tartrate	10TX
Potassium tert-butoxide	14WS
Potassium tetraiodomercurate (II)	11TX
Potassium tetroxalate	10TX
Potassium thiocyanate	11TX
Potassium titanate	11TX
PPO	10TX
Pregnenolone	10TX
Primuline	10TX
Print flattening solution	19NH
Procaine	10TX
Proflavine	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Proline, L-	19NH
Pronamide	10TX
Propachlor	10TX
Propanal (Propionaldehyde)	08FL
Propane (gas)	07CG
Propane sultone, 1,3-	10TX
Propanediamine, 1,2-	08FL
Propanediol, 1,2-	08FL
Propanediol, 1,3-	08FL
Propanediol, 2-hydroxymethyl-2-nitro-1,3-	10TX
Propanedithiol	10TX
Propanil	10TX
Propanol	08FL
Propanol, 2-nitro-1-	08FL
Propanolol HCl	10TX
Propargyl alcohol	08FL
Propidium iodide	10TX
Propiolactone, beta-	08FL
Propionaldehyde	08FL
Propionamide	10TX
Propionanilide	10TX
Propionic acid	03CA
Propionic anhydride	03CA
Propionitrile	08FL
Propiophenone	08FL
Propyl dipropylthiocarbamate, S-	10TX
Propyl gallate, N-	10TX
Propyl isocyanate, N-	14WS
Propyl methacrylate	08FL
Propylamine	08FL
Propylene carbonate	10TX
Propylene dichloride	08FL
Propylene glycol	08FL
Propylene glycol monostearate	10TX
Propylene oxide	08FL
Propylene phenoxetol	08FL
Propylmethacrylate, 3-(trimethoxysilyl)-	10TX
Propyl-p-hydroxybenzoate	10TX
Prosil (Organosilane)	14WS
Prostaglandin E1	10TX
Prostaglandin F2 (alpha)	10TX
Protease	19NH
Protein kinase	19NH
Protein kinase 3'5' cyclic AMP	19NH
Pro-texx mounting medium	08FL
Protoporphyrin IX	10TX
Protoporphyrin IX dimethyl ester	10TX

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Protosol (contains methanol)	08FL
P-tosyl-L-arginine methylester	10TX
Pulegone	10TX
Pump oil	08FL
Purinethiol	10TX
Puromycin dihydrochloride hydrate	10TX
Putrescine	02CB
PVP (polyvinylpyrrolidone)	10TX
Pyllodium celite	10TX
Pyracin(4-pyridoxil acid), beta-	10TX
Pyralin	15SS
Pyrazinamide, 2,3- (Pyrazinecarboxamide)	10TX
Pyrazine dicarboxylic acid, 2,3-	10TX
Pyrazole	10TX
Pyrene	08FL
Pyrenemethyl iodoacetate	10TX
Pyrethrin, synthetic	10TX
Pyridine	08FL
Pyridine hydrochloride	10TX
Pyridine-3-aldehyde	10TX
Pyridinecarboxaldehyde, 2-	08FL
Pyridinedicarboxylic acid, 2,5-	03CA
Pyridinedicarboxylic acid, 2,6-	03CA
Pyridinium bromide perbromide	17OX
Pyridinium chlorochlorate	17OX
Pyridinium chorochromate	17OX
Pyridoxine HCl	19NH
Pyridyl thiadiazole	10TX
Pyridylazo)-2-naphthol, 1-(2-	10TX
Pyridylcarbinol, 2-	08FL
Pyrocarbonic acid diethyl ester	08FL
Pyrocatechol	10TX
Pyrogallate absorption solution	10TX
Pyrogallic acid (Pyrogallol)	10TX
Pyrogallol (Pyrogallic acid)	10TX
Pyronin B	10TX
Pyronin Y	10TX
Pyroxylin	15SS
Pyrrole	08FL
Pyrrole-2-carboxaldehyde	10TX
Pyrrolidine	08FL
Pyrrolidinone, 1-methyl-2-	08FL
Pyrrolidionecarbodithioic acid, 1-, ammonium salt	10TX
Pyrrolidone, 2-	08FL
Pyruvaldehyde	08FL
Pyruvate kinase	19NH
Pyruvic acid	03CA

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Quinacrine dihydrochloride hydrate	10TX
Quinhydrone	10TX
Quinine hydrobromide	10TX
Quinine sulfate dihydrate	10TX
Quinine sulfate monohydrate	10TX
Quinine valeranate	10TX
Quinoline	08FL
Quinolinol, 8- (8-Hydroxyquinoline)	10TX
Raney nickel	09FS
Raney nickel catalyst powder	09FS
Red phosphorus, amorphous	14WS
Reinecke salt	14WS
Resarzurin	10TX
Reserpine	10TX
Resmethrin	10TX
Resorcinol	10TX
Resorufin	10TX
Retinol palmitate	10TX
Rexyn 201	02CB
Rhenium	11TX
Rhodamine	10TX
Rhodamine 6G	10TX
Rhodamine B	10TX
Rhodanine	10TX
Rhodine	19NH
Rhodinol	08FL
Rhodium	11TX
Rhodium chloride	11TX
Rhodizonic acid, dipotassium salt	10TX
Rhonox	10TX
Rhoplex	10TX
Riboflavin	19NH
Ribonuclease-A	19NH
Rifampin	10TX
Rivanol	10TX
Rotenone	08FL
Roundup	10TX
Rubeanic acid (Dithiooxamide)	10TX
Rubeanic acid in ethanol	08FL
Rubidium chloride	11TX
Rubidium nitrate	17OX
Ruthenium	09FS
Ruthenium (IV) oxide	11TX
Saccharin	19NH
Safranine O	10TX
Safranine stain	10TX
Safrole	08FL

*Explosion hazard

#Highly reactive

^vMay form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Salbutamol	10TX
Salicylaldehyde	08FL
Salicylaldoxime	10TX
Salicylamide-o-acetic acid	10TX
Salicylanilide	10TX
Salicylhydroxamic acid	10TX
Salicylic acid	10TX
Salicylic acid, 5-(p-nitrophenylazo) sodium salt (Alizarin yellow CG)	10TX
Salicyloyl hydrazide	10TX
Santo white	10TX
Saponin	10TX
Sarital (Sodium thiamylal)	10TX
Savasol	08FL
Schiff's reagent	03CA
Scintigest (Tissue solubilizer)	08FL
Sclex 30 WP	10TX
Sebacic acid	03CA
Sebacoyl chloride	14WS
Seleninyl chloride (Selenium oxychloride)	03CA
Selenium	11TX
Selenium dioxide	11TX
Selenium disulfide	11TX
Selenourea	10TX
Semicarbazide hydrochloride	10TX
Sencor	10TX
Sephadex G10	19NH
Sephadex G200	19NH
Sephadex G50	19NH
Serine, DL-	19NH
Serotonin creatinine sulfate monohydrate	10TX
Sevin	10TX
Sevinol, 4-	10TX
Sigma 104 phosphatase substrate tablets	10TX
Silane	07CG
Silcane	14WS
Silica gel	19NH
Silicic acid	19NH
Silicon	11TX
Silicon carbide	19NH
Silicon dioxide	19NH
Silicone	10TX
Silicone (A-172)	10TX
Silicone rubber	10TX
Silicotungstic acid hydrate	03CA
Silver	11TX
Silver acetate	11TX
Silver benzoate	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Silver bromide	11TX
Silver carbonate	11TX
Silver chlorate	17OX
Silver chloride	11TX
Silver cyanide	11TX
Silver diethyldithiocarbamate	11TX
Silver iodide	11TX
Silver nitrate	17OX
Silver nucleinate	10TX
Silver oxide	11TX
Silver perchlorate, anhydrous	15SS
Silver picrate	15SS
Silver plating solution	11TX
Silver proteinate	11TX
Silver stain	11TX
Silver sulfate	11TX
Silvex	10TX
Sitosterol, beta-	10TX
Skatole (3-Methylindole)	10TX
Soda lime	02CB
Sodium	14WS
Sodium 2-mercaptobenzothiazole	10TX
Sodium acetate	19NH
Sodium alizarinesulfonate (Alizarin Red S)	10TX
Sodium aluminate, solid	11TX
Sodium amalgam	14WS
Sodium amide ^v	14WS
Sodium ammonium phosphate	19NH
Sodium arsenate dibasic	11TX
Sodium arsenite	11TX
Sodium ascorbate	19NH
Sodium azide	15SS
Sodium barbitol	10TX
Sodium benzenesulfonate	10TX
Sodium benzoate	10TX
Sodium beta-naphthalenesulfonate	10TX
Sodium bicarbonate	19NH
Sodium bismuthate	17OX
Sodium bisulfate	03CA
Sodium bisulfide (Sodium hydrosulfide hydrate)	15SS
Sodium bisulfite	11TX
Sodium borate (Sodium tetraborate)	19NH
Sodium borohydride [#]	14WS
Sodium bromate	11TX
Sodium bromide	11TX
Sodium cacodylate	11TX
Sodium carbonate	19NH

*Explosion hazard

#Highly reactive

^vMay form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Sodium chloranilate	10TX
Sodium chlorate	17OX
Sodium chloride	19NH
Sodium chlorite	17OX
Sodium chloroacetate	10TX
Sodium cholate	19NH
Sodium chromate tetrahydrate	17OX
Sodium citrate	19NH
Sodium cobaltinitrite (Sodium hexanitrocobaltate)	17OX
Sodium cyanate	10TX
Sodium cyanide, solid	11TX
Sodium cyanoborohydride [#]	14WS
Sodium diacetate	03CA
Sodium dichloro-S-triazinetriene	17OX
Sodium dichromate dihydrate	17OX
Sodium diethyldithiocarbamate	10TX
Sodium diethyldithiocarbamate trihydrate	10TX
Sodium diethyldithiocarbonate	10TX
Sodium dimethyldithiocarbamate	10TX
Sodium dithionate	11TX
Sodium dithionite	14WS
Sodium dodecyl sulfate	10TX
Sodium ethoxide	14WS
Sodium ferric ethylenediamine tetraacetate	11TX
Sodium ferrocyanide	11TX
Sodium fluoride	03CA
Sodium fluoroacetate	10TX
Sodium fluoroborate	14WS
Sodium formate	10TX
Sodium glycolate	10TX
Sodium glycocholate	10TX
Sodium hexane sulfonate	10TX
Sodium hippurate	10TX
Sodium hydride [#]	14WS
Sodium hydride in mineral oil [#]	14WS
Sodium hydrogen sulfate	03CA
Sodium hydrogen sulfite	11TX
Sodium hydrosulfite	14WS
Sodium hydroxide	02CB
Sodium hypobromite	17OX
Sodium hypochlorite	17OX
Sodium hypophosphite	10TX
Sodium iodate	17OX
Sodium iodide	19NH
Sodium lactate	19NH
Sodium lauryl sulfate	10TX
Sodium metabisulfite	11TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Sodium meta-periodate	17OX
Sodium metasilicate	02CB
Sodium methohexital	10TX
Sodium methoxide	14WS
Sodium methylate (Sodium methoxide)	14WS
Sodium molybdate	11TX
Sodium molybdate dihydrate	11TX
Sodium monoxide, solid	02CB
Sodium nitrate	17OX
Sodium nitrilotriacetic acid	03CA
Sodium nitrite	17OX
Sodium nitroferrocyanide	11TX
Sodium nitroprusside (Sodium nitroferrocyanide III)	11TX
Sodium oleate	10TX
Sodium oxalate	10TX
Sodium pentobarbital	10TX
Sodium pentachlorophenoate	10TX
Sodium perborate	17OX
Sodium perchlorate	15SS
Sodium periodate	17OX
Sodium permanganate monohydrate	17OX
Sodium peroxide	14WS
Sodium peroxymonosulfate	17OX
Sodium persulfate	17OX
Sodium phenobarbital	10TX
Sodium phenolsulphonate	10TX
Sodium phosphate, dibasic anhydrous	19NH
Sodium phosphate, dibasic heptahydrate	19NH
Sodium phosphate, monobasic monohydrate	19NH
Sodium phosphate, tribasic dodecahydrate	02CB
Sodium picramate, wetted	15SS
Sodium picrate	15SS
Sodium polymetaphosphate	10TX
Sodium potassium tartrate	19NH
Sodium propionate	10TX
Sodium p-toluenesulfonate	10TX
Sodium pyrophosphate	11TX
Sodium pyrosulfate	03CA
Sodium rhodizonate (Rhodizonic acid, disodium salt)	10TX
Sodium ricinoleate	10TX
Sodium salicylate	10TX
Sodium secobarbital	10TX
Sodium selenide	11TX
Sodium selenite	11TX
Sodium sesquicarbonate	19NH
Sodium silicate solution	02CB
Sodium silicofluoride	11TX

*Explosion hazard

#Highly reactive

^vMay form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Sodium stannate trihydrate	11TX
Sodium stearate	19NH
Sodium succinate	19NH
Sodium sulfate	11TX
Sodium sulfide nonahydrate	02CB
Sodium sulfite	11TX
Sodium tartrate (Tartaric acid, sodium salt)	19NH
Sodium TCA (sodium trichloroacetate)	10TX
Sodium tetraborate	19NH
Sodium tetraphenylborate	10TX
Sodium tetrathionate	10TX
Sodium thiocyanate	11TX
Sodium thioglycolate (Mercaptoacetic acid, Na salt)	10TX
Sodium thiosulfate	11TX
Sodium titanate	11TX
Sodium trimetaphosphate	19NH
Sodium tungstate dihydrate	11TX
Sodium-B-naphthoquinone-4-sulfate	10TX
Solvent blue 38 (Luxol® fast blue MBSN)	10TX
Sopropyltoluene, p-	08FL
Sorbic acid (2,4-Hexadienoic)	10TX
Sorbitol, D-	19NH
Sorbose, L-	19NH
Soybean trypsin inhibitor	19NH
Spermine	02CB
Squalene	08FL
Stannic (IV) chloride, anhydrous	14WS
Stannic (IV) chloride, hydrated	03CA
Stannic (IV) oxide	11TX
Stannous (II) sulfide	11TX
Stannous chloride (Tin chloride)	11TX
Stannous oxalate	11TX
Stannous sulfate	14WS
Stannous sulfide	11TX
Starch	19NH
Steapsin	19NH
Stearic acid	03CA
Stearmide (Octadecanamide)	10TX
Steel	11TX
Steric acid	10TX
Stilbene oxide, cis-	08FL
Stilbene oxide, trans-	10TX
Stoddard solvent	08FL
Streptozotocin	10TX
Strontium	14WS
Strontium acetate	10TX
Strontium bromide	11TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Strontium carbonate	11TX
Strontium chloride	11TX
Strontium chloride hexahydrate	11TX
Strontium nitrate	17OX
Strontium oxide	11TX
Strontium peroxide	15SS
Strontium salicylate	11TX
Strontium sulfate	11TX
Strontium sulfide	11TX
Strontium titanate	11TX
Strychnine nitrate	10TX
Strychnine sulfate	10TX
Strychnine, L-	10TX
Styphnic acid	15SS
Styrene	08FL
Styrene oxide	15SS
Succinamide	10TX
Succinic acid	10TX
Succinic anhydride	03CA
Succinimide	10TX
Succinyl chloride	14WS
Succinyl sulfathiazole	10TX
Sudan black B	10TX
Sudan III	10TX
Sudan IV	10TX
Sulfadiazine	10TX
Sulfaguanidine	10TX
Sulfamic acid	03CA
Sulfamide	10TX
Sulfanilamide	10TX
Sulfanilic acid	03CA
Sulfanilic acid sodium salt hydrate	10TX
Sulfapyridine	10TX
Sulfathiazole	10TX
Sulfinylaniline, N-	08FL
Sulfolane	08FL
Sulfonethylmethane	10TX
Sulfonic acid sodium salt, 3-	03CA
Sulfosalicylic acid	03CA
Sulfur	11TX
Sulfur dichloride	14WS
Sulfur hexafluoride	07CG
Sulfur iodide	11TX
Sulfur monochloride	14WS
Sulfur trioxide pyridine	14WS
Sulfuric acid	03CA
Sulfurous acid	03CA

*Explosion hazard

#Highly reactive

^vMay form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Sulfurous acid, diethyl ester	08FL
Sulfurous acid, dipotassium salt	11TX
Sulfuryl chloride	14WS
Superoxide dismutase	19NH
Talc	19NH
Tannic acid	10TX
Tantalum	11TX
Tantalum carbide	11TX
Tartaric acid	19NH
Tartrazine	10TX
Taurine	19NH
TBTO	11TX
Technicon wetting agent	10TX
Tedion	10TX
Teflon	07CG
Tellurium	11TX
Tensilon (Edrophonium chloride)	10TX
Terebene	08FL
Terephthalic acid	10TX
Tergitol	10TX
Terphenyl, p-	10TX
Terpineol	08FL
Terpineol, alpha-	08FL
Terpinol	08FL
Tert-butyl hydroquinone	10TX
Tert-butylchlorodiphenylsilane	02CB
Tert-butylisothiocyanate	10TX
Tert-butylphenol, 4-	02CB
Tert-butylphenol, p-	10TX
Tert-butyl-pyrocatechol, 4- (4-tert-butylcatechol)	02CB
Tert-pentyl alcohol (Tert-pentanol)	08FL
Testosterone	10TX
Testosterone propionate	10TX
Tetraacetic acid, N,N,N',N','-	03CA
Tetrabromobenzene, 1,2,4,5,-	10TX
Tetrabromoethane, 1,1,2,2-	08FL
Tetrabromo-m-cresolsulfonephthalein, 3,3,5,5-	10TX
Tetrabromophenol blue	10TX
Tetrabromophenolsulfonephthalein, 3',3,5',5'-	10TX
Tetrabutylammonium bromide	10TX
Tetrabutylammonium hexafluorophosphate	10TX
Tetrabutylammonium hydroxide (40% in MeOH)	02CB
Tetrabutylammonium iodide	10TX
Tetrabutylammonium perchlorate	17OX
Tetrabutylammonium phosphate	08FL
Tetrachlorobenzene, 1,2,4,5-	10TX
Tetrachloroethane, 1,1,1,2-	08FL

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Tetrachloroethane, 1,1,2,2-	08FL
Tetrachloroethylene (Tetrachloroethene)	08FL
Tetrachloromethane	08FL
Tetrachloro-p-benzoquinone, 2,3,5,6- (Chloranil)	10TX
Tetrachlorophenol, all isomers	10TX
Tetrachlorophthalic anhydride	10TX
Tetrachlorosilicon	14WS
Tetracyanoethylene	10TX
Tetradecane	08FL
Tetradecanol, 1-	10TX
Tetradecylamine	10TX
Tetraethoxypropane, 1,1,3,3-	08FL
Tetraethyl orthosilicate	08FL
Tetraethyl pyrophosphate	08FL
Tetraethylammonium bromide	10TX
Tetraethylammonium chloride	10TX
Tetraethylammonium hydroxide (20% in water)	02CB
Tetraethylammonium perchlorate	17OX
Tetraethylenepentamine	10TX
Tetraethyllead	08FL
Tetrafluoroboric acid	03CA
Tetrafluorophenol, 2,3,5,6-	10TX
Tetrahydro-4H-pyran-4-one	10TX
Tetrahydrobenzaldehyde, 1,2,3,6-	02CB
Tetrahydrodicyclopentadiene	08FL
Tetrahydrofuran [∇]	08FL
Tetrahydrofurfuryl alcohol	08FL
Tetrahydroisoquinoline, 1,2,3,4-	10TX
Tetrahydronaphthalene, 1,2,3,4-	08FL
Tetrahydroxy-1,4-quinone hydrate	10TX
Tetrahydroxyanthraquinone disodium salt	10TX
Tetrahydroxynaphthalene, 1,2,3,4-	10TX
Tetralin (Tetrahydronaphthalene)	08FL
Tetralol, alpha- (1,2,3,4-Tetrahydro-1-naphthol)	10TX
Tetramethoxypropane, 1,1,3,3-	08FL
Tetramethyl-1,4-benzoquinone (Duroquinone)	10TX
Tetramethylammonium borohydride [#]	14WS
Tetramethylammonium chloride	10TX
Tetramethylammonium hydroxide	14WS
Tetramethylammonium iodide	10TX
Tetramethylammonium iodine	10TX
Tetramethylbenzene, 1, 2,4,5-	08FL
Tetramethylbenzene-1,2,4,5 (Durene)	08FL
Tetramethylbenzidine acid, N,N,N',N'-	03CA
Tetramethylbenzidine, 3,3',5,5'-	10TX
Tetramethyldiaminomethane, N, N, N', N'-	08FL
Tetramethyldisilane, 1,1,2,2-	14WS

*Explosion hazard

#Highly reactive

[∇]May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Tetramethylene sulfone	10TX
Tetramethylethylenediamine, N, N, N', N''- (Temed)	08FL
Tetramethylpentadecane, 2,6,10,14-	10TX
Tetramethylphenanthroline	10TX
Tetramethylpiperdine, 2,2,6,6-	08FL
Tetramethyl-p-phenylene diamine	10TX
Tetramethylsilane	08FL
Tetramethylsilane	08FL
Tetramethylthiuram disulfide	10TX
Tetramethyltin	08FL
Tetramethylurea, 1,1,3,3-	10TX
Tetranitromethane*	15SS
Tetra-N-propylammonium iodide	10TX
Tetraphene (1,2-Benzanthracene)	10TX
Tetraphenylboron sodium (Sodium tetraphenylborate)	10TX
Tetraphenylcyclopentadienone	10TX
Tetraphenylethylene	08FL
Tetrapropylammonium hydroxide	02CB
Tetrasodium pyrophosphate	11TX
Tetrasodium tetraacetic acid	10TX
Tetrazole	10TX
Tetrazolium chloride	10TX
Tetrazotized o-dianisidine	10TX
Thallic (III) nitrate trihydrate	17OX
Thallium	11TX
Thallium (III) oxide	11TX
Thallium acetate	10TX
Thallium carbonate	11TX
Thallium chloride	11TX
Thallium ethoxide	02CB
Thallium formate	11TX
Thallium nitrate	17OX
Thallium selenide	11TX
Thallium sulfate	11TX
Thallos acetate	11TX
THAM [Tris(hydroxymethyl)aminomethane]	10TX
Thenoyltrifluoroacetone	10TX
Theobromine sodium salicylate	10TX
Thiabenzazole	10TX
Thiamine hydrochloride	19NH
Thimerosal	11TX
Thioacetamide	10TX
Thioacetic acid (Thiolacetic acid)	14WS
Thioaceturide	03CA
Thioanisole	08FL
Thiobarbituric acid, 2-	10TX
Thiocaprolactam	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Thiocarbanilide	10TX
Thiocarbohydrazide	10TX
Thiodiethanol, 2,2'-	08FL
Thiodiglycol (2,2'-Thiodiethanol)	08FL
Thiodipropionic acid	10TX
Thioglycolic acid	03CA
Thiolactic acid	03CA
Thiolyte	10TX
Thiomalic acid (Mercaptosuccinic acid)	03CA
Thionin	10TX
Thionyl chloride	14WS
Thionylaniline, N-	10TX
Thiophene	10TX
Thiophenol	10TX
Thiopyronin	10TX
Thioridazine hydrochloride	10TX
Thiosalicylic acid	10TX
Thiosemicarbazide	10TX
Thiourea	10TX
Thioxane, 1,4-	10TX
Thioxanthen-9-one	10TX
Thiram (Tetramethylthiuram disulfide)	10TX
Thixotropic gel powder	10TX
Thorium nitrate	11TX
Thrombin	10TX
Thymidine 5' diphosphate	19NH
Thymol	10TX
Thymol blue	10TX
Thymolphthalein	10TX
Thymolsulfonaphthalein	10TX
Tiglic acid	03CA
Tin	11TX
Tin (II) chloride	11TX
Tin (II) chloride dihydrate	11TX
Tin chloride	11TX
Tincture benzoin compound	08FL
Titan yellow (Thiazol yellow)	10TX
Titanium dioxide [Titanium (IV) oxide]	11TX
Titanium metal powder, wet	14WS
Titanium sulfate	11TX
Titanium tetrachloride [Titanium (IV) chloride]	14WS
Titanium trichloride	14WS
Titanous chloride	14WS
Tocopherol (vitamin E)	19NH
Tocopherol acetate, DL-alpha-	19NH
Tolidine, o-	10TX
Toluene	08FL

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Toluene sulfonamide, p-	10TX
Toluene-2,4-diisocyanate	14WS
Toluenesulfonic acid hydrate, sodium salt	10TX
Toluenesulfonic acid, p- (monohydrate)	03CA
Toluenesulfonyl chloride	03CA
Toluenesulfonyl fluoride, p-	14WS
Toluenethiol (p-thiocresol)	08FL
Tolhydroquinone (Methylhydroquinone)	10TX
Toluic acid	03CA
Toluidine blue, o-	10TX
Toluidine hydrochloride, o-	10TX
Toluidine, all isomers	08FL
Tolunitrile, o-	08FL
Toluonitrile, m-	10TX
Toluoyl chloride, o-	14WS
Tolyazo)-o-toluidine, 5-(o-	10TX
Tolylmercuric chloride, p-	11TX
Tosyl chloride (Toluenesulfonyl chloride)	14WS
Tosylamino-2-phenylethyl chromomethylketone	10TX
Transfer RNA	19NH
Transfer-ribonuclein	19NH
Tri(2-pyridyl)-1,3,5-triazine, 2,4,6-	10TX
Tri(dimethylaminomethyl)phenol	11TX
Triacetin	10TX
Triallyl phosphate	08FL
Triaminotriphenylmethane	10TX
Tribromophenol, 2,4,6-	10TX
Tribromopropane, 1,2,3-	10TX
Tributyl phosphate	08FL
Tributyl phosphine	03CA
Tributylamine	08FL
Tributyltin hydride [#]	14WS
Trichloro-2-methyl-2-propanol, 1,1,1-	10TX
Trichloro-5-nitrobenzene, 1,2,4-	10TX
Trichloroacetaldehyde	10TX
Trichloroacetic acid	03CA
Trichloroacetic acid	03CA
Trichloroacetic acid, sodium salt	10TX
Trichloroacetonitrile	02CB
Trichlorobenzene, 1,2,4-	10TX
Trichlorobenzene, 1,3,5-	10TX
Trichloroethane, 1,1,1-	10TX
Trichloroethane, 1,1,2-	10TX
Trichloroethylene	10TX
Trichlorofluoromethane (Fluorotrichloromethane)	10TX
Trichloromethane	10TX
Trichloromethanesulfonic anhydride	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Trichloromethylthio-tetrahydrophthalimide, N-	10TX
Trichlorophenol	10TX
Trichlorophenol, 2,4,6-,sodium salt	10TX
Trichlorophenoxy)propionic acid, 2-(2,4,5-	03CA
Trichlorophenoxyacetic acid, 2,4,5-	03CA
Trichlorophenoxyacetic acid, butyl ester	03CA
Trichlorotrifluoroethane, 1,1,1-	08FL
Trichlorotrifluoroethane, 1,1,2-	08FL
Trichrome stain	10TX
Tricresyl phosphate (Tritoyl phosphate)	10TX
Triethanolamine	08FL
Triethoxysilane	14WS
Triethyl orthoformate	08FL
Triethyl phosphate	10TX
Triethyl phosphite	14WS
Triethylamine	08FL
Triethylborane	14WS
Triethylene glycol	08FL
Triethylene glycol dimethyl ether	08FL
Triethylenetetraamine	02CB
Triethylethylenediamine, N, N, N'	08FL
Triethylorthoformate	14WS
Triethylsilanol, sodium salt	10TX
Trifluoro-1-(2-thienyl)-1,3-butanedione, 4,4,4-	10TX
Trifluoroacetic acid	03CA
Trifluoroacetic acid, sodium salt	10TX
Trifluoroacetic anhydride	14WS
Trifluoroacetylacetyl naphthalene, 2-	10TX
Trifluoroethanol, 2,2,2-	08FL
Trifluoroethylamine hydrochloride, 2,2,2-	14WS
Trifluoromethanesulfonic acid	03CA
Trifluorotoluene, alpha, alpha, alpha	08FL
Triglyme	08FL
Trihydroxybenzoic acid monohydrate, 2,4,6-	10TX
Trihydroxydecanophenone, 2',3',4'-	10TX
Trihydroxyflavone, 4',5,7- (Apigenin)	10TX
Triisopropyl phosphite	08FL
Triketohydrindene hydrate,1,2,3- (Ninhydrin)	10TX
Trimellitic acid (1,2,4-Benzenetricarboxylic acid)	14WS
Trimethoxyacetophenone, 3'4',5'-	10TX
Trimethoxybenzoic acid, 3,4,5-	03CA
Trimethyl acetic anhydride	14WS
Trimethyl orthoformate	08FL
Trimethyl pentane, 2,2,4-	08FL
Trimethyl phenol, 2,4,6-	03CA
Trimethyl phosphate	08FL
Trimethyl phosphite	08FL

*Explosion hazard

#Highly reactive

∇May form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Trimethyl-1,3-pentanediol, 2,4,4-	08FL
Trimethyl-1-pentanol, 2,2,4-	08FL
Trimethylacetylhydrazine ammonium chloride	10TX
Trimethylacetyl chloride	14WS
Trimethylamine aqueous solution	08FL
Trimethylamine hydrochloride	08FL
Trimethylbenzene, 1,2,4-	08FL
Trimethylchlorosilane (Chlorotrimethylsilane)	14WS
Trimethylpyridine, 2,4,6-	08FL
Trimethylsilyl diethylamine (TMSDEA)	08FL
Trimethylsilylacetamide, N-	08FL
Trimethylthiophenol, 2, 4,6-	10TX
Trimyristin	10TX
Tri-N-butylphosphine	08FL
Trinder's reagent (contains ferric chloride)	11TX
Trinitro-9-fluorene, 2,4,7-	15SS
Trinitrobenzene, 1,3,5- (wetted)*	15SS
Trinitrobenzenesulfonic acid, 2,4,6-	15SS
Trinitrobenzoic acid, 2,4,6-*	09FS
Trinitroguanidine	09FS
Trinitrophenyladenosine 5' diphosphate, 2',3'-	10TX
Trinitrophenyladenosine 5' triphosphate, 2',3'-	10TX
Trioxsalen (4,5',8 Trimethylpsoralen)	10TX
Trioxymethylene	10TX
Tripalmitin	10TX
Triparanol	08FL
Triphenyl methyl mercaptan	10TX
Triphenyl phosphite	14WS
Triphenyl-2H-tetrazolium chloride, 2,3,5-	10TX
Triphenylcarbinol (Triphenylmethanol)	10TX
Triphenylchloromethane	10TX
Triphenylimidazole, 2,4,5- (Lophine)	10TX
Triphenylmethane	10TX
Triphenylmethyl bromide	10TX
Triphenylphosphine	10TX
Triphenylphosphine oxide	10TX
Tris	10TX
Tris(2,3-dibromopropyl) phosphate	10TX
Tris(dimethylaminomethyl) phenol, 2,4,6-	10TX
Tris(hydroxymethyl) aminomethane	10TX
Tris(hydroxymethyl)methyl-2-amino-1-ethanesulfonic acid, 2- (TES)	10TX
Tris-barbital-sodium barbital	10TX
Trisodium phosphate	02CB
Trisodium-N-hydroxy-ethylenediaminetriacetate	10TX
Trithiane, 1,3,5-	10TX
Triton B (N-Benzyltrimethylammonium hydroxide)	10TX
Triton X-100	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Triton X-400	10TX
Triton X-405 (contains lithium carbonate)	10TX
Trizma base	10TX
Trizma maleate	10TX
Tromethamine (Tris(hydroxymethyl)aminomethane)	10TX
Tropinone	08FL
Trypan blue dye	10TX
Trypsin	19NH
Trypsin	19NH
Tryptophan, L-	19NH
TS-2 (contains sodium hydroxide)	08FL
Tubocurarine chloride	10TX
Tungsten	11TX
Tungsten (IV) chloride	14WS
Tungstic acid	11TX
Tungstic oxide	11TX
Turf fungicide, 3336	10TX
Turpentine	08FL
Tween 20	10TX
Tween 40	10TX
Tween 80 (sorbitan monooleate, polyoxyethylene)	10TX
Tylosin	10TX
Tylosin tartrate	10TX
Tyramine hydrochloride	10TX
Tyrosine	19NH
Tyrothricin	19NH
Undecenoic acid, 10-	10TX
Undecylenic acid (10-Undecenoic acid)	03CA
Undecylenic aldehyde (10-Undecenal)	08FL
Unitol ACD tall oil	10TX
Unitol DT tall oil	10TX
Uracil	10TX
Uracil mustard	10TX
Uranine (Fluorescein, sodium salt)	10TX
Urea	19NH
Urea nitrate, wet	17OX
Urease	10TX
Urethane	08FL
Uric acid	10TX
Uricase	10TX
Uridine 5' triphosphate	19NH
Uridine-5'-diphosphate	19NH
Uridyl adenosine	19NH
Valeraldehyde	08FL
Valeric acid	03CA
Valeric anhydride	03CA
Valeronitrile	08FL

*Explosion hazard

#Highly reactive

^vMay form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Valeryl chloride	14WS
Valine, L-	19NH
Valproic acid	03CA
Vanadium	11TX
Vanadium pentoxide [Vanadium (V) oxide]	11TX
Vancide	11TX
Vanillic acid (4-Hydroxy-3-methoxybenzoic acid)	03CA
Vanillin	19NH
Vanillomandelic acid (VMA)	10TX
Vapam (methylcarbomodithioic acid, na salt)	10TX
Vectabond reagent	10TX
Vegetable oil	08FL
Veratrole	10TX
Veren-ol (trisodium-N-hydroxy EDTA)	10TX
Versamin-900	03CA
Versene	10TX
Vinyl acetate	08FL
Vinyl chloride [∇]	07CG
Vinyl ethyl ether, inhibited [∇]	08FL
Vinyl sulfone	08FL
Vinyl-1-cyclohexene, 4-	08FL
Vinyl-2-pyrrolidone, N-	08FL
Vinylacetic acid	03CA
Vinylcyclohexene dioxide	10TX
Vinylferrocene	11TX
Vinylidene chloride, inhibited [∇]	08FL
Vinylimidazole, 1-	08FL
Vinylpyridine, 2-	08FL
Vinylpyridine, 4- monomer	02CB
Vinylpyridine,-2 poly-	08FL
Vinylpyridine,-4-	08FL
Visnagin	10TX
Vitamin A (all-trans-Retinol)	19NH
Vitamin B6 (Pyridoxine)	19NH
Vitamin D2 (Ergocalciferol)	19NH
Vitamin K3	19NH
Vondozeb	11TX
Warfarin	10TX
Water	19NH
Wright's stain	10TX
Xanthen-9-ol (9-hydroxyxanthene)	10TX
Xanthene-9-carboxylic acid	03CA
Xanthine oxidase	19NH
Xanthone (9-Xanthenone)	10TX
Xanthidrol (9-Hydroxyxanthene)	10TX
X-ray film developer	02CB
Xylene cyanole	10TX

Appendix D -- UAB Waste Registry

CHEMICAL NAME	CPC CODE
Xylene sulfonate	10TX
Xylene, all isomers	08FL
Xylenol orange, sodium salt	10TX
Xylenol, 4-chloro-3,5-	10TX
Xylidine, 2,4-	08FL
Xylol (xylene mixture)	08FL
Xylose	19NH
Yohimbine	10TX
Zenker's solution	17OX
Zeolite	19NH
Zephiran	10TX
Zerlate	10TX
Zinc	11TX
Zinc (II) nitrate hydrate	17OX
Zinc acetate dihydrate	11TX
Zinc amalgam	11TX
Zinc bromide	11TX
Zinc carbonate	11TX
Zinc chloride	03CA
Zinc chloride, solid	11TX
Zinc cyanide	11TX
Zinc dust	14WS
Zinc iodide	11TX
Zinc lactate	11TX
Zinc metal	11TX
Zinc naphthenate	10TX
Zinc nitrate hexahydrate	17OX
Zinc orthosilicate	11TX
Zinc oxide	11TX
Zinc perchlorate hexahydrate	17OX
Zinc phosphate	11TX
Zinc phosphide	14WS
Zinc phosphite	11TX
Zinc p-phenolsulfonate	11TX
Zinc salicylate	11TX
Zinc stearate	11TX
Zinc sulfate hexahydrate	11TX
Zinc sulfide	11TX
Zinc sulfite	11TX
Zinc sulphocarbolate	11TX
Zinc thiobenzoate	11TX
Zinc, granular	11TX
Zirconium (IV) chloride	14WS
Zirconium (IV) hydroxide	02CB
Zirconium (IV) oxide	11TX
Zirconium sulfate hydrate	11TX

*Explosion hazard

#Highly reactive

^vMay form unstable peroxides on standing

Appendix D -- UAB Waste Registry

CHEMICAL NAME

CPC CODE

**UNIVERSITY OF ALABAMA AT BIRMINGHAM HAZARDOUS MATERIALS MANAGEMENT
UNIVERSAL WASTE MANIFEST**

(Packing Instructions on Reverse Side - Print or Type Only)

- 1) Generator Name _____
- 2) Building _____ 3) Room _____
- 4) Telephone _____ 5) Date _____
- 6) Department _____
- 7) Person Completing Manifest _____

HAZARDOUS MATERIALS FACILITY USE ONLY EPA Generator # ALD006-369-0705 Technician(s) _____ Date Transported _____						
(8) Material Type	(9) Physical Form	(10) Pounds	(11) # of Items/ Containers	(12) # of Containers	(13) Type of Containers	(14) Control #
Fluorescent Light Bulbs						
Collection Drums						
Collection Boxes						
Batteries						
Lead Acid						
Lead Gel						
NiCad / Metal Hydride						
Lithium						
Alkaline						
Thermistals / Thermometers						
Pesticides (specify chemical content)						
1.						
2.						
3.						
Ballasts						
PCB						
Non-PCB						

Check box if you need more: Universal Waste Labels Universal Waste Manifests

This is to certify that the above named articles are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to applicable requirements of the UAB Chemical Safety and Waste Management Program and the Department of Transportation. Improper information regarding the transport of hazardous materials over public roads or highways constitutes violation of State and Federal laws which could result in civil or criminal penalties.

(15) Generator Signature _____ Date _____
(Send top copy to the Hazardous Materials Facility - Attach bottom copy to the box - Retain middle copy for your records)

**UNIVERSITY OF ALABAMA AT BIRMINGHAM HAZARDOUS MATERIALS MANAGEMENT
CHEMICAL WASTE MANIFEST**

(Packing Instructions on Reverse Side - Print or Type Only)

- 1) Generator Name _____
- 2) Generator Number _____
- 3) Building _____ 3) Room _____
- 4) Telephone _____ 5) Date _____
- 6) Department _____
- 7) Person Completing Manifest _____

**HAZARDOUS MATERIALS FACILITY
USE ONLY**

EPA Generator # ALD06-369-0705

Technician(s) _____

Date Transported _____

(8) Chemical Hazard Code	(9) Chemical Compound (One constituent per line)	(10) %	(11) Physical Form	(12) ml org	(13) # of Containers	(14) Type	(15) Control #

This is to certify that the above named articles are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to applicable requirements of the UAB Chemical Safety and Waste Management Program and the Department of Transportation. Improper information regarding the transport of hazardous materials over public roads or highways constitutes violation of State and Federal laws which could result in civil or criminal penalties.

(16) Generator Signature _____ Date _____

(Send top copy to the Hazardous Materials Facility - Attach middle copy to the box - Retain bottom copy for your records)

THE UNIVERSITY OF ALABAMA AT BIRMINGHAM

INCIDENT REPORT FORM

(Incidents involving employees, students, visitors)

This is a confidential report and should not be made a part of an employee's personnel record. It is completed to allow us to obtain advice from legal counsel and for the protection of the university and it's employees from potential liability.

***** PLEASE PRINT LEGIBLY *****

INFORMATION ABOUT THE PERSON INVOLVED IN THE INCIDENT:

Full Name:		Social Sec.#:	
Home Address:			Gender: M F
Circle:	Employee (Full-time, part-time, perm., temp.)	Student (SOM, SON, SOD, Other)	Visitor
Date of Birth:	Home phone:	Campus Phone:	
Campus address:			
Job Title:		Supervisor:	

INFORMATION ABOUT THE INCIDENT:

Date of Incident:	Time:	Police notified: Yes No	Case #:
Location of Incident:			
Describe what happened, how it happened, factors leading to the event, substances or objects involved. Be as specific as possible (attach separate sheet if necessary):			
Were there any witnesses to the incident? Yes No			
If yes, attach separate sheet with names, addresses and phone numbers, or campus depts and phone.			
Was the individual injured? If so, describe the injury (laceration, sprain, etc.), the part of body injured and any other information known about the resulting injury(s):			
Was medical treatment provided? Yes No Refused			
If so, where (circle) : Emerg. Rm. The Workplace Walk In Clinic Other:			
Will the employee miss time from work as a result of this incident? Yes No Unknown			

REPORTER INFORMATION

Print Name of Reporter:	
Reporter Signature	Title:
Date Report Completed:	

**UAB On-The-Job Injury/Illness
Initial Medical Evaluation Authorization**

This form must be completed, signed and presented to the medical service provider prior to receipt of treatment, except in the event of a serious medical emergency. A post-accident drug screening will be performed as required by the UAB On-the-Job Injury/Illness Program policy.

**Failure to submit to drug screen may result in termination of employment
THIS FORM SHOULD NOT BE USED FOR UAHSF EMPLOYEES**

This UAB employee, _____ (_____),
(full name of employee and social security number)

is referred to _____ for evaluation of the injury/
(medical service provider)

illness described below. **An incident report must be completed and submitted as required by the On-the-Job Injury/Illness Program policy (or refer to Human Resources web sit at www.hrm.uab.edu**.

Employee's Department: _____

Employee's Position/Title: _____

Date incident occurred: _____

Brief description of incident and resulting injury or illness:

Employee Signature: _____ Date signed: _____

Supervisor Signature: _____ Date signed: _____

Supervisor Phone Number: _____

Completion of this form does not certify that the injury or illness described above is an "On the Job Injury/Illness" (OJI) qualifying for benefits under the UAB On-The-Job Injury/Illness Program. **An application for OJI benefits must be completed, signed and submitted to Hilb, Rogal & Hamilton (HRH)**. A copy of the application and further information regarding the OJI program may be accessed on the web at www.hrm.uab.edu or by contacting Rosalind Bothwell with HRH at 868-0288.

(V. 3/6/02)

Appendix G – Protective Gloves

There are several types of "rubber", "surgeons", or "laboratory" gloves available on the market. Each is made from a different polymer starting material and consequently has different abilities to protect against exposure to chemicals. Four major types of laboratory gloves are listed in Table 1, along with their relative protection against selected chemicals. These gloves are generally available from most laboratory supply houses.

It should be noted that even when the above gloves are used for the appropriate classes of chemicals, the amount of protection that is provided is extremely variable. The vapor form of the liquid chemical will break through to the skin side of the glove in most cases within a matter of minutes. While for most chemicals this vapor exposure will not be particularly harmful, for some of the more toxic chemicals the exposure can be harmful. In addition, once chemicals reach the skin, the glove acts as a barrier that aids in the penetration of the chemicals through the skin. Effectively, a process called "occlusion" can occur by which the chemical penetrates the skin more easily when trapped between the glove and the skin than if the skin were exposed without a glove.

From this the following guidelines for the use of gloves are necessary:

1. Change gloves frequently, particularly if they become wet with the chemical.
2. For particularly toxic compounds, especially those that are polar, a polyethylene glove may be used. In order to improve coordination, apply a natural rubber "surgeons" glove over the polyethylene glove. The polyethylene glove will provide the protection, and the surgeons glove will provide the tactility.
3. Make certain that hands are clean before using gloves. If chemicals have inadvertently contaminated the skin prior to using the glove, the glove will speed up the process of skin penetration.
4. Try to select the type of glove polymer that is best suited for your particular application. Often, the MSDS will suggest a glove type for use with a particular chemical. If you have questions, consult with the Department of Occupational Health and Safety.
5. If the above guidelines are followed, and gloves are changed frequently, particularly when liquid comes in contact with the glove, then any of the thin rubber gloves available on the market should serve well for general laboratory purposes.

Appendix G – Protective Gloves

TABLE 1: Resistance to Chemicals of Common Glove Materials
(E=Excellent, G=Good, F=Fair, P=Poor)

Chemical	Natural Rubber	Neoprene	Nitrile	Vinyl
Acetaldehyde	G	G	E	G
Acetic Acid	E	E	E	E
Acetone	G	G	G	F
Acrylonitrile	P	G	n/a	F
Ammonium hydroxide	G	E	E	E
Aniline	F	G	E	G
Benzaldehyde	F	F	E	G
*Benzene	P	F	G	F
*Benzyl chloride	F	P	G	P
Bromine	G	G	n/a	G
Butane	P	E	n/a	P
Butyraldehyde	P	G	n/a	G
Calcium hypochlorite	P	G	G	G
Carbon disulfide	P	P	G	F
*Carbon tetrachloride	P	F	G	F
Chlorine	G	G	n/a	G
Chloroacetone	F	E	n/a	P
Chloroform	P	F	G	P
Chromic acid	P	F	F	E
Cyclohexane	F	E	n/a	P
Dibenzyl ether	F	G	n/a	P
Dibutyl phthalate	F	G	n/a	P
Diethanolamine	F	E	n/a	E
Diethyl ether	F	G	E	P
**Dimethyl sulfoxide	n/a	n/a	n/a	n/a
Ethyl acetate	F	G	G	F
*Ethylene dichloride	P	F	G	P
Ethylene glycol	G	G	E	E
*Ethylene trichloride	P	P	n/a	P
Fluorine	G	G	n/a	G
Formaldehyde	G	E	E	E
Formic acid	G	E	E	E
Glycerol	G	G	E	E
Hexane	P	E	n/a	P
Hydrobromic acid (40%)	G	E	n/a	E

Appendix G – Protective Gloves

Hydrochloric acid	G	G	G	E
Hydrofluoric acid (30%)	G	G	G	E
Hydrogen peroxide	G	G	G	E
Iodine	G	G	n/a	G
Methylamine	G	G	E	E
Methyl cellosolve	F	E	n/a	P
*Methyl chloride	P	E	n/a	P
Methyl ethyl ketone	F	G	G	P
*Methylene chloride	F	F	G	F
Monoethaloamine	F	E	n/a	E
Morpholine	F	E	n/a	E
*Naphthalene	G	G	E	G
Nitric acid	P	P	P	G
Perchloric acid	F	G	F	E
Phosphoric acid	G	E	n/a	E
Potassium hydroxide	G	G	G	E
*Propylene dichloride	P	F	n/a	P
Sodium hydroxide	G	G	G	E
Sodium hypochlorite	G	P	F	G
Sulfuric acid	G	G	F	G
*Toluene	P	F	G	F
*Trichloroethylene	P	F	G	F
Tricresyl phosphate	P	F	n/a	F
Triethanolamine	F	E	E	E
Trinitrotoluene	P	E	n/a	P

* Aromatic and halogenated hydrocarbons will attack all types of natural and synthetic glove materials. Should swelling of the glove occur, the user should change to fresh gloves and allow the swollen gloves to dry and return to normal.

** No data on the resistance to dimethyl sulfoxide of natural rubber, neoprene, nitrile rubber, or vinyl materials are available; the manufacturer of the substance recommends the use of butyl rubber gloves.

Taken from "Prudent Practices for Handling Hazardous Chemicals in the Laboratory."

Appendix H – Chemical Inventory

Chemical Name	Manufacturer	Form (Liquid/solid)	Quantity	Primary Hazard	Room(s) Stored	Date Rec'd

Date: _____ I.D Number _____ Investigator: _____
 Building and Room(s) Inspected: _____
 Department: _____ Contact Person: _____ Ext: _____
 Campus Address _____
 Email Address _____ Auditor: _____

A. Laboratory Demographics - If the SP box is checked adjacent to the question this item must be covered in a lab specific Safety Plan

Y N SP Comments

1. Are microbial agents used in this lab? Agent Room Used Room Stored																												
2. Is r-DNA/RNA used in this lab? What Host/Vector system																												
3. Is human blood, body fluids, or unfixed tissue used in this lab?																												
4. Are animals used or housed in this lab? Are animals housed in the animal facility? List species: _____																												
5. Are the following agents administered to animals? Identify. RDNA material _____ human products _____ infectious agents _____ drugs (exclude analgesics, sedatives, anesthetics etc) _____ chemicals _____																												
6. Is tissue/cell culture used in this lab? Primary _____ human _____ animal _____ Continuous _____ human _____ animal _____ source _____																												
7. What animal biosafety level of containment is used in this lab?																												
8. What biosafety level of containment is used in this lab?																												
9. List 5 chemicals used in the laboratory which you feel are the most hazardous (include flammables, hazardous drugs and extremely hazardous substances) and the maximum quantity stored and the frequency of use. <table border="0" style="width: 100%;"> <tr> <td style="width: 30%;">Name</td> <td style="width: 20%;">Frequency</td> <td style="width: 20%;">Amount</td> <td style="width: 30%;">Unit</td> </tr> <tr> <td></td> <td><u>D W M > M</u></td> <td></td> <td></td> </tr> <tr> <td></td> <td><u>D W M > M</u></td> <td></td> <td></td> </tr> <tr> <td></td> <td><u>D W M > M</u></td> <td></td> <td></td> </tr> <tr> <td></td> <td><u>D W M > M</u></td> <td></td> <td></td> </tr> <tr> <td></td> <td><u>D W M > M</u></td> <td></td> <td></td> </tr> </table>	Name	Frequency	Amount	Unit		<u>D W M > M</u>				<u>D W M > M</u>				<u>D W M > M</u>				<u>D W M > M</u>				<u>D W M > M</u>						
Name	Frequency	Amount	Unit																									
	<u>D W M > M</u>																											
	<u>D W M > M</u>																											
	<u>D W M > M</u>																											
	<u>D W M > M</u>																											
	<u>D W M > M</u>																											
10. List 5 chemicals that are most frequently used in the laboratory and the maximum quantity stored and the frequency of use. <table border="0" style="width: 100%;"> <tr> <td style="width: 30%;">Name</td> <td style="width: 20%;">Frequency</td> <td style="width: 20%;">Amount</td> <td style="width: 30%;">Unit</td> </tr> <tr> <td></td> <td><u>D W M > M</u></td> <td></td> <td></td> </tr> <tr> <td></td> <td><u>D W M > M</u></td> <td></td> <td></td> </tr> <tr> <td></td> <td><u>D W M > M</u></td> <td></td> <td></td> </tr> <tr> <td></td> <td><u>D W M > M</u></td> <td></td> <td></td> </tr> <tr> <td></td> <td><u>D W M > M</u></td> <td></td> <td></td> </tr> </table>	Name	Frequency	Amount	Unit		<u>D W M > M</u>				<u>D W M > M</u>				<u>D W M > M</u>				<u>D W M > M</u>				<u>D W M > M</u>						
Name	Frequency	Amount	Unit																									
	<u>D W M > M</u>																											
	<u>D W M > M</u>																											
	<u>D W M > M</u>																											
	<u>D W M > M</u>																											
	<u>D W M > M</u>																											
11. Are regulated agents (i.e. select agents) or controlled substances used in your lab? <table border="0" style="width: 100%;"> <tr> <td style="width: 15%;">Agent</td> <td style="width: 15%;">Bldg Used</td> <td style="width: 15%;">Room Used</td> <td style="width: 15%;">Bldg Stored</td> <td style="width: 15%;">Room Stored</td> </tr> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </table>	Agent	Bldg Used	Room Used	Bldg Stored	Room Stored	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____													
Agent	Bldg Used	Room Used	Bldg Stored	Room Stored																								
_____	_____	_____	_____	_____																								
_____	_____	_____	_____	_____																								

B. Safety Programs and Plans	Y	N	SP	Comments
1. Is there evidence of documented safety training? Is training provided by - P. I. - Lab Coordinator - Video -- External -- H & S -- Other?				
2. Is there evidence of documented participation in an occupational medicine program?				
3. Do UAB employees have access to UAB safety manuals?				
4. Has a lab specific safety plan been written that addressed the items checked in section A?				
C. General Safety				
1. Do personnel wear appropriate clothing and PPE for work being performed?				
2. Are spill kits available where appropriate?				
3. Are first aid kits available where appropriate?				
4. Are electrical circuits properly loaded with no cords across isles?				
5. Are fire extinguishers available _____ tested _____ unobstructed _____ mounted _____				
6. Are aisles, passageways and exits within the lab clear from obstruction?				
7. a.) Are all gas cylinders securely restrained? b.) Are valve covers on those not in use?				
8. Are foods and beverages restricted from the space where laboratory work is being performed?				
9. Are safety showers and eyewashes: UAB approved _____ tested, _____ easily accessible _____ marked _____				
10. Are fume hoods functioning properly and certified according to UAB policy?				
11. Are housekeeping practices good, with no excessive clutter present?				
12. Are laboratory doors kept closed while experiments are in progress and in accordance with general safety and fire guidelines?				
13. Are emergency phone numbers and after hours contacts posted on exterior laboratory doors and near telephones?				
D. Chemical Safety				
1. Is a current chemical inventory maintained in the lab?				
2. Do lab personnel have access to MSDS information?				
3. Is waste disposal documented and records maintained in the laboratory for two years?				
4. Are hazardous chemicals properly segregated by hazard class? (see Chemical Management Section 5 of Chemical Safety and Waste Management)				
5. Are chemical storage areas properly posted with signage indicating hazard classes (i.e. acids, flammables)?				
6. Are containers of ether and other peroxide forming chemicals dated?				
7. Are chemicals properly and legibly labeled? (See Section 5 of Chemical Safety and Waste Management)				

	Y	N	SP	Comments
8. Are chemicals within the manufacturer's expiration date?				
9. Are chemical containers undamaged and in good condition?				
10. Are conventional refrigerators labeled as unsuitable for storage of flammable materials?				
11. When flammable materials are stored in a refrigerator, is it a spark-proof refrigerator?				
12. Are chemicals free of signs of physical or chemical change (i.e., crystals, discoloration)?				
13. Is the laboratory free of chemical damage to the facility or equipment?				
14. Are corrosive liquids stored below eye-level?				
15. Are work areas for carcinogens, or agents of high or unknown toxicity posted with a sign denoting a high hazard area?				
16. Are quantities of flammable liquids over 10 gallons stored in flammable storage cabinets?				
17. Is the fume hood restricted from being used for storage of chemicals?				
18. Are waste containers used for high-risk chemicals? (i.e. yellow barrels for carcinogen contaminated material, etc.)				
19. Is secondary containment present for chemicals stored in large volumes (i.e. 5 gal. Waste collection containers, etc.)?				
E. Biosafety				
1. Is medical waste separated from non-medical waste at the point of generation?				
2. Is medical waste secured and transferred to covered red plastic barrels for transport to the Hazardous Materials Facility?				
3. Is animal waste disposed according to UAB Medical Waste Management Plan?				
4. a) Is liquid biological waste decontaminated by an autoclave or chemical disinfection before disposal? b) Is solid biological waste decontaminated by an autoclave or chemical disinfection before disposal?				
5. Are sharps containers sealed when full to manufacturers recommended fill line and placed in designated red plastic barrels with covers?				
6. Is autoclave performance periodically validated using biospore strips or ampules?				
7. In areas using Class 2 or 3 etiologic agents, is the principal entrance to the work area posted with an 8" x 10" or equivalent biohazard sign specifying agent(s)?				
8. Is equipment used for infectious material storage and processing posted with a 2"x3" biohazard sign (or equivalent)?				
9. Is outer street clothing stored somewhere other than the laboratory area where Risk Group 2 or higher agents or allergens may be present?				
10. Are procedures with a potential for creating infectious aerosols or splashes conducted within a certified biological safety cabinet?				
Location (Bldg)	Room	# units	Certification Date	
_____	_____	_____	_____	
_____	_____	_____	_____	
_____	_____	_____	_____	
11. Are sharps placed directly into appropriately labeled and/or color-coded, impervious, rigid, puncture-resistant containers with covers?				
12. Does the lab have access to an autoclave for decontamination (BSL 2 work)?				
13. Does the lab have access to an autoclave within the work area for BSL 3 work?				
14. Are work surfaces being decontaminated when work with infectious material is finished and immediately after spills or splashes?				

Appendix I -Laboratory Safety Audit Preparation Checklist

(Pages referenced for the Biosafety Manual, Chemical Safety and Waste Management Manual and the General Health and Safety Management Program provide more information on topics)

- ___ A current chemical inventory is available. (CSWMM Sec. 4.3 and GHSMP p. 74)
- ___ A list of microbial agents being used in the laboratory. (BSM Sec 11.3)
- ___ A list of r-DNA/RNA Host/Vectors being used in the laboratory.
- ___ Material Safety Data Sheets are available, or have been requested for all hazardous materials. (CSWMM Sec. 4.4)
- ___ Records of waste disposal through the HMF are available. (CSWMM Sec. 11.5.3)
- ___ Records of personnel safety training are kept. (BSM Sec 11.3 and CSWMM Sec. 4.6.4)
- ___ Records of participation in an occupational medicine program if working with animals. (BSM 11.3)
- ___ A laboratory specific safety plan has been written. (BSM Sec. 11.3 and CSWMM Sec. 4.1)
- ___ Required signs posted for special hazards (biohazard, carcinogen, select agents, etc.) (CSWMM Sec. 3.2.2 and 4.5.4)
- ___ Emergency phone numbers are posted correctly. (Template and printing instructions are available on the Department of Occupational Health and Safety website, Chemical Safety section. Stickers should be posted on doors and near phones). (CSWMM Sec. 4.5.5 and GHSMP p. 61)
- ___ Aisles and hallways are clear of equipment and other obstructions. (CSWMM Sec. 3.1 and GHSMP p. 44)
- ___ All compressed gas cylinders are chained to walls or counters, those not in use have the protective cover in place. (CSWMM Sec. 4.7.4.5)
- ___ Personnel wear gloves, goggles, lab coats and other appropriate personal protective equipment when handling hazardous materials. (CSWMM Sec. 3.1, BSM 4.2 and GHSMP p. 53)
- ___ There is no eating or drinking in areas where chemicals are used or stored. (CSWMM Sec. 3.1.5 and BSM 4.2.1)
- ___ Safety showers and eyewashes are clearly marked and easily accessible. Eyewashes are checked regularly. (See the eyewash checklist available on the Department of Occupational Health and Safety website) (CSWMM Sec. 3.1.13 and 3.1.9; BSM 4.2.9)
- ___ Hazardous materials are stored by hazard class. (No acids and bases or oxidizers and flammables stored together). (CSWMM Sec. 4.7.3)
- ___ Corrosive liquids are stored below eye level.
- ___ Chemicals that can form explosive peroxides (ethers, tetrahydrofuran) are dated when received, dated when opened and discarded by the expiration date. (CSWMM App. B)
- ___ All chemicals are labeled correctly and legibly. (Includes secondary containers). (CSWMM Sec. 4.5)
- ___ Outdated chemicals, very old chemicals, and expired reagents are disposed of properly through the HMF. (Try to discard or recycle chemicals which have not been used for over a year). (CSWMM Sec. 11)
- ___ Regular refrigerators are labeled "Not for Flammable Storage". (GHSMP p. 39)
- ___ No flammables are stored in regular refrigerators. (GHSMP p. 41)
- ___ Large amounts of flammables, up to the legal limit for a given size lab, are stored in flammable storage cabinets. (GHSMP p. 40-41)
- ___ Sharps containers are being used and being disposed of before being over-filled. (BSM App J sec. I. F)
- ___ Medical waste is being separated from non-medical waste at the point of generation. (BSM 11.1.3)

Appendix J – Chemical Hygiene Plan Outline

Chemical Hygiene Plan

The UAB Department of Occupational Health and Safety requires each laboratory on campus to develop and abide by a written Chemical Hygiene Plan (CHP) as outlined by the U.S. Occupational Safety and Health Administration (OSHA) in 29 CFR 1910.1450 “Occupational Exposure to Hazardous Chemicals in Laboratories.” The following document is designed to serve as a guide for Principal Investigators, Laboratory Directors, Managers, and Supervisors to fulfill this requirement. The CHP must protect employees from health hazards associated with chemicals used in that laboratory and keep exposures to hazardous chemicals below the levels set forth in 29 CFR 1910, subpart Z. The required elements of the plan are:

- 1. Standard Operating Procedures**
- 2. Criteria for Exposure Control Measures**
- 3. Fume Hoods and Protective Equipment**
- 4. Information and Training**
- 5. Circumstances Requiring Prior Approval**
- 6. Medical Consultation and Examination**
- 7. Chemical Hygiene Officer**
- 8. Work with Extremely Hazardous Substances**

Principal Investigator, Laboratory Manager, Director or Supervisor:	Chemical Hygiene Officer:
Department:	Campus Address:
Building(s):	Date:
Room Number(s) covered by this plan:	Date of Review/Update (at least annually):

I. Standard Operating Procedures

This laboratory follows general procedures set forth in the UAB Chemical Safety and Waste Management Manual concerning the use and handling of hazardous chemicals. Below are listed any additional standard operating procedures or references used in the covered laboratories.

Appendix J – Chemical Hygiene Plan Outline

Additional References

II. Criteria for Exposure Control Measures

This laboratory follows the recommendations outlined in Sections 3 and 4 of the UAB Chemical Safety and Waste Management Manual for the control of exposure to hazardous chemicals. Materials designated as Extremely Hazardous are summarized in Section 3.2.

Exposure Control Criteria	Exposure Control Measures
Use of any hazardous material	Refer to Sections 3 and 4 <u>UAB Chemical Safety and Waste Management Manual</u>
Use of Extremely Hazardous Substances	Refer to Section 3.2 <u>UAB Chemical Safety and Waste Management Manual</u>

III. Fume Hoods and Protective Equipment

Chemical fume hoods are certified through the Division of Biological Safety. A sticker is attached to the unit at the time of certification. Records of certification are kept in the office of the Department of Occupational Health and Safety, Room 445 Community Health Services Building, 933 19th Street South, Birmingham, AL 35294. Eye washes are tested weekly by laboratory personnel. Safety showers are tested by the maintenance department and tagged at the time of inspection.

Appendix J – Chemical Hygiene Plan Outline

Protective Equipment (Location)	Method Used to Verify Performance

IV. Information and Training

This is to document that personnel in this laboratory have been trained in the following as required by the UAB Chemical Safety and Waste Management Program:

- The requirements of the Hazard Communication and Chemical Safety and Waste Management Programs.
- Basic chemical handling and laboratory safety procedures.
- Physical and health hazards of chemicals.
- How to read and interpret labels and material safety data sheets (MSDS's).
- The location and availability of the written program, MSDS's, the hazardous chemical inventory, and methods of personal protection.

Name	SS #	Date

Attach an outline or summary of any additional training required in this laboratory, as well as the frequency of such training.

Appendix J – Chemical Hygiene Plan Outline

V. Circumstances Requiring Prior Approval

The following procedures and activities require prior approval:

Activity	Approval Procedure	Person Authorized to Grant Approval

VI. Medical Consultation and Examination

Laboratory personnel will have the opportunity to receive medical consultation and examination under the following circumstances:

- Development of signs or symptoms of exposure to a hazardous chemical used in the laboratory.
- Environmental monitoring reveals that exposure to an OSHA regulated substance with monitoring and medical surveillance requirements routinely exceeds the action level or Permissible Exposure Limit (PEL).
- A spill, leak or explosion has occurred in the laboratory which could have resulted in a hazardous exposure.

Non-emergency consultation will be provided through The Workplace. Emergency treatment will be provided through the University Hospital Emergency Department.

List other provisions for medical consultations and examinations below.

Criteria	Medical Provider

Appendix J – Chemical Hygiene Plan Outline

VII. Chemical Hygiene Officer

List the name, campus address and extension of the individual designated as Chemical Hygiene Officer for this laboratory on page one of this document. According to 29 CFR 1910.1450 "*Chemical Hygiene Officer*" means an employee who is designated by the employer, and who is qualified by training or experience, to provide technical guidance in the development and implementation of the provisions of the Chemical Hygiene Plan. This definition is not intended to place limitations on the position description or job classification that the designated individual shall hold within the employer's organizational structure.

VIII. Work with Extremely Hazardous Substances

Below is an inventory of those agents designated by the University as Extremely Hazardous Substances and any additional control measures specific to this laboratory required for work involving those substances.

Extremely Hazardous Substance	Supplemental Controls: Designated Areas Containment Devices Decontamination Procedures

Attach any relevant documentation pertaining to the use of "select agents" as defined in 42 CFR 72.

Appendix J – Chemical Hygiene Plan Outline

This plan shall be made available to laboratory personnel or their representatives, to representatives of the UAB Department of Occupational Health and Safety, and to representatives of those granting and accreditation agencies associated with this laboratory.

Appendix K – Disposal of Ethidium Bromide

1. Ethidium bromide solutions may be collected and manifested for pick-up by HMF personnel.
2. Commercially available filters designed to remove ethidium bromide from solutions may be used. The filtered buffer solution may be poured down the drain.
3. Ethidium bromide may be neutralized using the Lunn and Sansone method below. Neutralization with bleach is not recommended since mutagenic by-products may remain in the solution.

Spent filters and gels containing ethidium bromide should be disposed of in yellow hazardous waste disposal bags or Chemogators® for incineration. Regular red biohazard bags should not be used.

Destruction of Ethidium Bromide

Required reagents:

5% hypophosphorous acid
0.5M sodium nitrate solution
Sodium bicarbonate
pH paper

The following steps should be carried out in a fume hood by personnel observing general laboratory safety precautions and wearing appropriate personal protective clothing.

1. Dilute solutions containing ethidium bromide to a concentration of less than 0.05% w/v (50 mg/100 ml).
2. For each 100 ml of ethidium bromide solution add 20 ml of fresh 5% hypophosphorous acid and 12 ml of fresh 0.5 M sodium nitrate solution. Check the pH of the solution to make sure it is less than 3.0. Stir briefly.
3. Allow the solution to react for at least 20 hours, neutralize with sodium bicarbonate, and rinse down the sanitary sewer.

(Lunn, G, and Sansone, E. 1994. Destruction of Hazardous Chemicals in the Laboratory. John Wiley & Sons, Inc., pp. 185.)

Appendix L – Management of Photographic Chemicals

Photographic chemicals are used extensively on campus and can be bought in liquid form, which only need diluting; or powder form, which need dissolving and diluting; or as prefilled kits for use in automatic processing equipment. Handling of these materials may be limited to changing sealed containers or may involve the use of large, open trays of chemicals.

Hazards

1. Developer solutions and powders are often highly alkaline; and, glacial acetic acid, used in making the stop bath, is corrosive by skin contact, inhalation, and ingestion.
2. Developer powders are highly toxic by inhalation, and moderately toxic by skin contact, due to the alkali and developers themselves. Developers may cause methemoglobinemia, an acute anemia resulting from converting the iron of hemoglobin into a form that cannot transport oxygen.

Precautions

1. Use liquid chemistry whenever possible, rather than mixing developing powders to avoid inhalation exposure to powdered developer.
2. When mixing powdered developers, use a chemical fume hood or local exhaust ventilation. In any case, there should be adequate dilution ventilation if no local exhaust ventilation is provided.
3. Wear gloves, goggles, and protective apron when mixing concentrated photographic chemicals. Always add any acid to water, never the reverse.
4. An eyewash fountain and emergency shower facility should be available where the chemicals are mixed due to the corrosive alkali in developers and because of the glacial acetic acid. In case of skin or eye contact, rinse for at least 15-20 minutes and call a physician.
5. Store concentrated acids and other corrosive chemicals on low shelves to reduce the chance of face or eye damage in case of breakage and splashing.
6. Do not store photographic solutions in glass containers.
7. Label all solutions carefully.

Waste Disposal Requirements

1. Old or unused photographic chemical solutions, toning solutions, ferricyanide solutions, chromium solutions, color processing solutions, developer, stop baths, and fixer, should be treated as hazardous waste.

Appendix L – Management of Photographic Chemicals

2. **Never attempt to treat photographic wastes.** Do not neutralize alkaline developer solutions with stop bath or any other materials; do not attempt to neutralize fixing baths with acids. Waste treatment in labs is not allowed at UAB and these operations can lead to hazardous by-products.
3. Fixers contain some silver, which must be treated or recovered before it can be disposed of. Used photographic fixer may be picked up for recycling by Hazardous Material Facility personnel. Contact HMF at 4-3797 for containers and to schedule pickup.

It is important to remember that when handling fixers, developer, or other photographic products that proper Personal Protective Equipment (PPE) be worn at all times. At a minimum, all lab workers should wear appropriate footwear, lab coat, surgical type disposable gloves (preferably nitrile), and safety glasses when handling these hazardous chemicals.

Appendix M – Safe Handling of Hazardous Drugs

RATIONALE

In 1986, the Occupational Safety and Health Administration (OSHA), in response to many inquiries, published guidelines for the management of antineoplastic drugs in the workplace. At that time, surveys indicated little standardization in the use of engineering controls and personal protective equipment in avoiding contact with these agents. Although practices have improved in subsequent years, problems continue to exist.

Since the first guidelines, the occupational management of cytotoxic chemicals has been further clarified by the OSHA Hazard Communication Standard [29CFR 1910.1200]. (120). In order to provide recommendations consistent with current scientific knowledge, OSHA has published new, expanded informational guidelines dealing with **controlling exposure to hazardous drugs** in addition to cytotoxic agents. A summary of the background data and a complete listing of references are included at the end of these procedures for your review. The following criteria for deeming a drug as hazardous were developed by the American Society of Hospital Pharmacists and were used as the basis for the new guidelines.

- genotoxicity
- carcinogenicity
- teratogenicity or infertility impairment
- serious organ or other toxic manifestation at low doses in experimental animals or treated patients
- investigational drugs

On direct contact, some of these drugs may cause irritation to the lungs, skin, eyes, and mucous membranes that can advance to ulceration and necrosis of tissue. Handling of these materials without special personal protective equipment or containment procedures could spread potentially carcinogenic material to others. Toxicity of many of these pharmaceuticals dictates that the exposure of medical personnel to these drugs should be minimized.

Direct Exposure is defined as direct skin contact, eye contact, or direct inhalation of particles or aerosols. Exposure can occur during aerosol administration of a drug, when handling tablets or capsules, removing air bubbles from syringes and IV tubing, injecting drugs, disconnecting IV tubing, fixing leaking tubing or syringe connections, disposing of contaminated material, withdrawing drug from a vial, etc.

Indirect Exposure is defined as contact with a hazardous drug through blood and body fluids. Proper equipment and technique must be utilized to protect

Appendix M – Safe Handling of Hazardous Drugs

personnel and prevent contamination of the work environment with hazardous drugs.

Personnel involved in the preparation or handling of hazardous drugs are hereby encouraged to consult their personal physician regarding their own potential health risks due to genetic factors, health status, or other personal situations.

Personnel working with hazardous drugs who are pregnant or planning pregnancy should inform their supervisor and seek guidance from their personal physician as to whether they should be assigned duties which do not involve administering or handling these agents. Based on available evidence, it is reasonable to assume that proper technique and use of personal protective equipment should minimize the risk to the health care worker.

SAFETY PRECAUTIONS

A. **Personnel Practices: Preparation/Dispensation**

1. All doses of hazardous drugs should be prepared in the pharmacy under a biological safety cabinet and delivered to the nursing unit.
2. Hazardous drugs that are subject to spillage or contamination should be delivered in a zip-lock plastic bag. The bag should be clearly labeled as a hazardous drug with proper disposal instructions. The bag or drug will also contain an instruction label which states; HAZARDOUS DRUG - REFER TO SAFE HANDLING PROCEDURES. DISPOSE OF PROPERLY.
3. The nurses station should be considered a *clean* area. No potentially contaminated material should be brought into the nurses station.
4. To avoid alarm or misunderstanding, patients should be informed that any protective equipment in use is necessary for workers to be protected against the directly irritating effects of the drugs to eyes and skin (see Patient Education).

B. **Patient Education**

1. Prior to administration of hazardous drugs in the hospital or upon discharge, appropriate health care personnel should inform patients of the long-term, as well as the short-term effects of the medication being prescribed. Nurses should always ask if this counseling has been provided.

Appendix M – Safe Handling of Hazardous Drugs

2. Family members should also be instructed on the specific hazards and should be discouraged from eating in the rooms of patients who are receiving therapy involving hazardous drugs.

C. Intravenous Drug Administration

1. Wash hands before donning personal protective equipment and after administration of a hazardous drug.
2. Personal protective equipment should consist of a disposable protective outer garment (lint-free and impervious) such as a closed front type gown with long sleeves and knit cuffs. Cuffs must be tucked under gloves. Two pair of powder free disposable latex gloves or one pair of the thicker chemotherapy type administration gloves should be worn during those procedures where leakage of the drug may result (i.e. removing air bubbles from syringes and IV tubing, injecting drugs, disconnecting IV tubing, fixing leaking tubing or syringe connections). Gloves and gowns that become contaminated or torn should be changed immediately. Splash protection for the eyes, such as a face shield or safety goggles and mask should be worn when administering hazardous drugs under pressure or if aerosol generation is possible.
3. Infusion sets and pumps, which should have luer-loc fittings whenever possible, should be watched for signs of leakage during use. A plastic-backed absorbent pad should be placed under the tubing during administration to absorb any leakage. Always use an appropriate size needle, since the larger gauge needles are more likely to drip.
4. Prime IV sets or expel air from a syringe by placing a sterile gauze pad near the needle tip when the air is expelled. Preferably, a plastic bag should be used as a receptacle. Priming should be done at a designated workstation or in the patient's room at bedside, not at the nurse's station, so other staff are not exposed in the event of accidental spillage. The plastic bag and gauze pad should be discarded into the hazardous drug (chemotherapy) waste container.
5. Always work on a surface protected by a disposable absorbent pad with impermeable backing (e.g. Chux). Absorbent side should face up. The pad should be discarded if it becomes contaminated.

D. Oral Administration of Hazardous Drugs

1. Oral tablets or capsules primarily pose a risk through direct skin contact with powder found on their surface or inside unit dose packs. Oral liquids may be spilled accidentally.

Appendix M – Safe Handling of Hazardous Drugs

2. Should you have to touch a tablet or capsule when preparing a patient dose, wear latex gloves and place the tablet or capsule in a disposable medication cup. Oral liquids can be administered in the amber glass dose container in which they are contained. Gloves should be worn if manipulation (e.g. dilution, etc.) of the liquid is required.
3. The gloves, empty unit dose packet, and empty medication container, should be placed in the hazardous drug (chemotherapy) waste container.

E. Topical Administration of Hazardous Drugs

1. Since topical creams, ointments, and patches are designed to be absorbed directly through intact skin, administration should always be performed using gloves.
2. Dispose of contaminated dressing, patches, and other material in the hazardous drug waste container.

F. Aerosol Administration of Hazardous Drugs

1. Prior to aerosol administration of any cough-inducing drug, such as pentamidine, patients should have proper diagnostic screening to rule out undiagnosed *mycobacterium tuberculosis* (TB). This should be carried out according to the UAB tuberculosis exposure control guidelines.
2. Administration of aerosolized hazardous drugs should take place in an isolation room with a minimum of 6 air changes per hour. The isolation room should be 100% exhaust and airflow should be negative with respect to the corridor (air should flow into the room with the door closed). Air flow should be verified by hospital maintenance.
3. During aerosol administration of a hazardous drug, a warning sign should be placed on the patients door to warn others that proper personal protective equipment is required before entering. This should be done by the person responsible for the administration of the drug. Personal protective equipment (PPE) should consist of a closed front gown, gloves and a NIOSH approved particulate air respirator, which has been properly fit tested.
4. Other than for patient emergencies, employees should avoid returning to the patients' room without PPE for a period of at least thirty (30) minutes following administration of the drug. Hazardous drugs are particulate (not volatile) and will settle out over time.

Appendix M – Safe Handling of Hazardous Drugs

5. Disposable material associated with the administration should be placed in the hazardous drug (chemotherapy) waste container. Non-disposable items may be properly cleaned of the drug with most hospital detergents. Follow normal disinfection procedures.

G. Disposal of Hazardous Drugs

1. After a hazardous drug has been administered, remove syringes, tubing, and other equipment using an absorbent pad with impermeable backing to prevent droplet contamination. All syringes, IV tubing and supplies associated with the administration of the hazardous agent should be disposed in the hazardous drug (chemotherapy) disposal container, **not in the regular sharps container or the medical waste container. Hazardous drug (chemotherapy) disposal containers should remain closed when not in use** and should be changed before having to force discards into them.
2. Wash hands after removing protective clothing and equipment. In the event any drug is splashed on unprotected skin, wash the area immediately, remove contaminated clothing, and contact your supervisor. Medical attention and consultation should be sought concerning the incident and an incident report should be filled out (See Section J). Contaminated clothing should be taken home in a plastic bag and washed separately from other clothing.

H. Handling, Storage, and Disposal of Waste Containers

1. Hazardous drug waste should be disposed of only in designated hazardous drug (chemotherapy) waste containers. Hazardous drug (chemotherapy) waste containers come in 2 sizes, five (5) and thirteen (13) gallon, and may be obtained from Materials Management. Waste containers should not be stored in the corridors. Containers may be stored in patient rooms after patient and family members have been counseled on the specific hazards of the chemicals. Containers may also be stored with other medical waste but should not be mixed.
2. Once the waste container becomes full, Environmental Services or other healthcare personnel, wearing latex gloves, take the container to the designated medical waste storage area to be placed in the **yellow** medical waste barrels. Waste in yellow barrels is designated for disposal by incineration. Barrels can be obtained from the Hazardous Materials Facility by calling 4-3797.

I. Handling of Contaminated Linen

Appendix M – Safe Handling of Hazardous Drugs

1. Personnel handling linen contaminated with hazardous drugs, blood, vomits or excreta from patients who have received hazardous drugs up to 48 hours before, should wear gloves, gown and face shield. Gloves alone may be acceptable if contamination is dry or not dripping. Linen should be placed in a specially marked **yellow** laundry bag, which may be obtained from Linen Service. This laundry bag and its contents should be prewashed, and then the linens may be added to other laundry for an additional wash.

J. Exposure - Employee Health Procedure

1. Identify all trained personnel who are assigned to prepare or administer hazardous drugs. An exposure should always be documented by filling out an accident/incident report so exposure may be properly tracked.
2. Procedure for handling a **direct or indirect exposure** (through blood and body fluid) to a hazardous agent.
 - a) Skin exposure procedure:
 - i. Identify the hazardous agent
 - ii. Wash area thoroughly with soap and water.
 - iii. Rinse thoroughly with water.
 - iv. Fill out accident/incident report
 - v. Contact Employee Health during office hours at 4-3675 and after hours through hospital paging (4-3411).
 - b) Eye exposure procedure
 - i. Flush eye with water for 15 minutes
 - ii. Fill out an accident/incident report
 - iii. Contact Employee Health, same as above

K. Hazardous Drug Spills

1. A small hazardous drug spill (200 ML OR LESS) may be managed by obtaining a hazardous drug (chemotherapy) spill kit (ChemoBloc®) from the unit or from the Pharmacy Storeroom and following the directions on the back of the kit. Nurses must wear proper personal protective equipment to avoid contact with spilled material.
2. For a large hazardous drug spill (GREATER THAN 200 ML), secure the area and summon the Occupational Health and Safety spill response team by calling 4-2487 during normal business hours. Before 8 a.m., after 5 p.m., and on the weekends, call paging for the on-call hazardous waste technician.

Appendix M – Safe Handling of Hazardous Drugs

3. For both large or small spills, after absorbing free liquid with absorbent material, wipe the area with a paper towel using a mild soap and water solution. Dispose of decontamination material in the hazardous drug (chemotherapy) disposal container. Contact Environmental Services and have the area cleaned again with soap and water. Environmental Services personnel should wear latex gloves while cleaning the area. Wash water may be disposed of down the drain. Dispose of gloves in the usual manner.
4. A spill clean-up video is available in Nursing Staff Development.

OSHA Hazardous Drugs

<u>CHEMICAL/GENERIC NAME</u>	<u>TRADE NAME</u>
Altretamine	Hexalen
Aminoglutethimide	Cytadren
Azathioprine	Imuran
L-Asparaginase	Elspar
Bleomycin	Blenoxane
Busulfan	Myleran
Carboplatin	Paraplatin
Carmustine	BiCNU
Chlorambucil	Leukeran
Chloramphenicol	Chloromycetin
	OCU-Chlor
	AK-Chlor
	Chloroptic
	TACE
Chlorotrianisene	
Chlorozotocin	
Cyclosporin	Sandimmune, Neoral
Cisplatin	Platinol
Cyclophosphamide	Cytoxan
	Neosar
Cytarabine	Cytosar U
	Tarabine PFS
Dacarbazine	DTIC-Dome
Dactinomycin	Cosmegen
Daunorubicin (HCl)	Cerubidine
Diethylstilbesterol	Diethylstilbesterol
Doxorubicin (HCl)	Adriamycin RDF
	Adriamycin-PFS
	Rubex

Appendix M – Safe Handling of Hazardous Drugs

Estradiol	Estraderm (topical)	
	Estrace (vaginal)	
Estramustine	Emcyt	
Ethinyl Estradiol	Estinyl	
Etoposide	VePesid	
Floxuridine	FUDR	
Finasteride	Proscar	
Fluorouracil	Adrucil	
Flutamide	Eulexin	
Gancyclovir (Na)	Cytovene	
Hydroxyurea	Hydrea	
Idarubicin	Idamycin	
Ifosfamide	Ifex	
Interferon Alfa	Recombinant DNA	2a-Roferon A 2b-Intron n3-Alferon N
	Human Leukocyte	
Isotretinoin	Accutane	
Leuprolide (Acetate)	Lupron Depot	
	Lupron Depot-Ped	
Levamisole (HCl)	Ergamisol	
Lomustine	CeeNU	
Mechlorethamine (HCl)	Mustargen (Nitrogen Mustard)	
Medroxyprogesterone (Acetate)	Depo-Provera	
	Provera	
	Amen	
	Curretab	
	Cycrin	
Megestrol (Acetate)	Megace	
Melphalan	Alkeran	
Mercaptopurine	Purinethol	
Methotrexate (Na)	Methotrexate Na. Mexate	
	Rheumatrex	
Mitomycin	Mutamycin	
Mitotane	Lysodren	
Mitoxantrone (HCl)	Novantrone	
Nafarelin (Acetate)	Synarel	
Pentamidine	Pentam	
Pipobroman	Vercyte	
Placlitaxel	Taxol	
Plicamycin	Mithracin	
Procarbazine (HCl)	Matulane	
Ribavirin	Virazole	
Streptozocin	Zanosar	

Appendix M – Safe Handling of Hazardous Drugs

Tamoxifen (Citrates)	Nolvadex Tamoxifen Citrate
Testolactone	Teslac
Thioguanine	Thioguanine Tabloid
Thiotepa	Thiotepa Parenteral
Uracil Mustard	Uracil Mustard (caps)
Vidarabine	Vira-A
Vinblastine (Sulfate)	Vinblastine Sulfate
	Velban
Vincristine	Oncovin Vincasar PFS
Zidovudine	Retrovir

ALL INVESTIGATIONAL DRUGS SHOULD BE CONSIDERED HAZARDOUS UNLESS THEIR EXCLUSION CAN BE SUPPORTED BY SCIENTIFIC EVIDENCE.

- * This list is to be updated as needed by the *Pharmacy and Therapeutics Committee*.