HAZARDOUS WASTE MANAGEMENT PLAN

This document is required as per Title 40 of the Federal Code of Regulations at part 262. It provides generalized rules and guidelines for The University of Alabama in Huntsville's management of hazardous wastes.

Effective Date:
August 1998

Review Date:
December 2013

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1.0 HAZARDOUS WASTE POLICY STATEMENT

The University of Alabama in Huntsville is committed to full compliance with federal, state, and local laws and regulations pertaining to the management of hazardous waste. The Office of Environmental Health & Safety has overall responsibility for policies and procedures for the management of hazardous waste on campus. The Director of Environmental Health and Safety is the University compliance officer with responsibility for oversight of the Hazardous Waste Management Program. The director is responsible (1) for developing and maintaining University policies related to tracking, handling, transportation, storage, disposal and maintenance of records of hazardous materials and (2) for designing and conducting training programs for University personnel regarding the management of hazardous waste from cradle to grave. Colleges, departments, or other units using or generating hazardous waste are responsible for maintaining accurate records to track hazardous materials from their purchase or generation through their storage and disposal. Colleges, departments, or other units may develop policies and procedures for dealing with hazardous waste within their units. These policies are subject to review by the Office of Environmental Health and Safety and must be consistent with University policies.

The Director of Environmental Health and Safety has overall responsibility for monitoring compliance with federal, state, and local regulations, and is responsible for identification of units within the University that may not be complying fully with regulations. The Director is responsible for providing notification of non-compliance to the units involved and for providing consultation regarding changes necessary to comply with regulations. When units fail to make necessary changes to comply with regulations, the Director is responsible for reporting such non-compliance to the vice president with administrative responsibility over the unit involved.

2.0 INTRODUCTION

The goal of the UAH Hazardous Waste Management Plan (HWMP) is to protect the health and safety of employees, students, and the environment while complying with applicable state and federal regulations. Implementation of a waste minimization program is vital to an effective hazardous waste management program. Utilizing procedures established within the HWMP the quantity and cost of hazardous waste disposals can be effectively reduced, the environment will be protected and employee safety will be enhanced. Planned purchases of only necessary quantities of chemicals and closeouts of laboratories will greatly reduce the hazardous waste output at UAH.

The objective of this plan is to define The University of Alabama in Huntsville's (UAH) responsibilities under federal and state regulations governing hazardous waste disposal and to outline a program for compliance with those regulations. This plan is intended to provide instructions for UAH faculty and staff in the management of hazardous waste. Information contained in this manual is applicable to all University divisions, centers, schools, and departments. Since laboratory work frequently produces an unpredictable variety of wastes, much of the information provided within this document specifically addresses laboratory waste disposal.

The United States Environmental Protection Agency has implemented strict rules and regulations pertaining to the handling and disposal of hazardous wastes. The Resource Conservation and Recovery Act (RCRA) establishes the cradle-to-grave concept. This concept involves the tracking of a hazardous waste from the point of generation through its final disposition. If found to be in violation of RCRA laws

UAH could be fined up to $32,500 per day per violation. Additionally, criminal charges may be brought against individuals who knowingly violate state, federal, or local regulations. Failure to follow guidelines established within the UAH Hazardous Waste Management Plan could result in disciplinary action not to exclude termination of employment.

UAH at times produces more than 100 kilograms of hazardous waste in a month, and thus must meet the requirements regulating a small quantity generator, as established by the Resource Conservation and Recovery Act (RCRA). If at any time the University generates more than 1000 kilograms of hazardous waste or greater than one liter of acutely hazardous waste in one calendar month, the requirements for large quantity generators will be applied to the UAH HWMP. The applicable Environmental Protection Agency (EPA) regulations (40 CFR 261) are very demanding and require cooperation of all campus generators to meet compliance requirements.

Guidelines established in the plan are intended to create an awareness of chemical wastes that require special disposal and management procedures involved. Specific procedures for continuous operations (longer than one month) generating hazardous waste are to be developed by the overseeing laboratory director or facility manager and approved by the UAH Office of Environmental Health & Safety (OEHS). A good reference source for developing management procedures is "Achieving Compliance With Hazardous Waste Regulations Manual For Colleges and Universities"; Findley & Company, 1988, 2nd Ed. This book along with Material Safety Data Sheets should provide sufficient information to develop proper management procedures. Waste generators must contact the University's OEHS at 824-2171 for specific and up to date advice on the disposal of any waste that is suspected of being regulated and/or hazardous.

The Hazardous Waste Management Plan shall serve as a guidance document for UAH employees to meet the challenges for providing a safe, environmentally sound, and unified response for chemical waste management. Note that certain laboratory procedures that have been acceptable in the past, including pouring chemicals down the drain (sewering) and evaporation of solvents in the fume hood, were performed with little regard to the quantity of chemicals involved or the associated hazards. These disposal practices are unacceptable. The University administration has therefore made a policy decision to prohibit such practices. If you are currently sewering waste as part of a process, it is imperative that the OEHS be notified, so that the disposal process can be reviewed, and if necessary, permitted.

All UAH personnel involved in any waste disposal process must read and have a thorough knowledge of the procedures contained within this guidance document. Each individual's participation is critically important in making the UAH Hazardous Waste Management Plan reliable, safe, and efficient.

3.0 HAZARDOUS WASTE DISPOSAL REGULATIONS

The federal government has aggressively approached the regulation of hazardous wastes. In 1976, Congress passed the Resource Conservation and Recovery Act (RCRA), and four years later the Environmental Protection Agency (EPA) issued complex and stringent regulations to implement Subtitle C of RCRA. In 1984 the Hazardous and Solid Waste Amendments became law, substantially revising and extending the scope of RCRA. The federal government has established a comprehensive cradle to grave system of monitoring hazardous wastes from the point of generation through the point of disposal. This system is still undergoing changes, especially with regard to wastes that are classified as hazardous. Sanctions for

noncompliance with EPA regulations are severe; they include criminal prosecution and fines of up to $32,500.00 per occurrence per day.

RCRA regulations are worded primarily to effectively control wastes produced by single waste-stream industrial generators, but are applicable to universities as well. UAH must not store, process, dispose of, transport, or offer for transport any hazardous waste without having received an EPA identification number. Nor can UAH offer hazardous waste to transporters or Treatment, Storage and Disposal Facilities (TSDFs) which have not received an EPA identification number. Before transporting hazardous waste to an off-site facility, all requirements for packaging, labeling, marking and placarding must be met. In addition, a uniform hazardous waste manifest must be properly executed and accompany each shipment. Any state that the hazardous waste shipment is transported through may also require a hazardous waste manifest specific for the state.

UAH can neither dispose of nor treat hazardous waste on-site. Only an EPA permitted disposal facility can legally landfill, incinerate, or recycle hazardous waste under the "cradle to grave" system. A waste generator never loses liability for environmental damage. For this reason, transporters and disposal facilities must be carefully chosen. The OEHS determines the TSDF through the bid system. Stringent criteria have been established to minimize environmental risk and University liability.

The EPA and the Alabama Department of Environmental Management (ADEM), who periodically perform inspections of hazardous waste collection procedures, documentation, and storage facilities, jointly enforce the regulations governing hazardous waste storage and disposal at UAH.

Regulations concerning small quantity generators are applicable to institutions or industries that generate between 100 and 1000 kilograms of hazardous waste per month. Generation at UAH may occasionally exceed 100 kilograms a month. Therefore UAH must comply fully with the regulations pertaining to small quantity generators. These regulations specify procedures and requirements for: 1) hazardous waste, identification, 2) shipping, 3) reporting, 4) accumulation time limits, 5) general sampling and waste analysis, 5) personnel training, 6) emergency contingency planning, and 7) record keeping. UAH is allowed to accumulate hazardous waste on-site for a maximum of 180 days as long as Small Quantity Generator status (100 - 1000kg/month of hazardous waste or <1kg/month of acutely hazardous waste) is not exceeded. If at any time UAH produces more than 1000 kilograms per month of hazardous waste, regulations pertaining to Large Quantity Generator status must be implemented to include an accumulation time limit of 90 days. All waste must then be transported to a permitted off-site waste disposal facility for further treatment, disposal, or recycling.

Local, state and federal law forbids the discharge of any hazardous waste into the public sanitary sewer system. In addition, due to recent developments, it is policy of UAH that no chemical wastes, laboratory or otherwise, be discharged into the sanitary sewer system. The OEHS is currently monitoring the effluent from UAH laboratories. Discharge limits regulated by the City of Huntsville must not be exceeded at any time. Individuals in charge of laboratories found to be discharging chemical wastes into the sanitary sewer system may face disciplinary action not excluding termination of employment. Any questions concerning the discharge of materials into the sanitary sewer system must be directed to the OEHS.

In conclusion, by state and federal guidelines, UAH is required to manage hazardous wastes in a safe and environmentally sound manner. All generators of hazardous waste are held legally responsible for ensuring that the applicable regulations concerning the management and disposal of hazardous waste

within your departments, laboratories, shops, or service areas are followed. The following sections are the basis of University policy.

4.1 HAZARDOUS WASTE MANAGEMENT SYSTEM

Chemical waste generated at UAH is managed through a procedural system called the hazardous chemical waste management system. This system encompasses the identification, labeling, storage, transportation and disposal of materials that are regulated as hazardous waste.

The hazardous chemical waste management system must achieve three goals:

1. Protection of employee health and safety
Proper evaluation, packing and labeling protects the health and safety of employees handling or potentially exposed to hazardous chemical waste.

2. Reduction of hazardous chemical waste volume in the laboratory
The volume of hazardous chemical waste generated at the University can be reduced by:
a. Disposal of non-hazardous wastes separately from hazardous chemical wastes.
b. Utilizing procedures for chemical waste minimization (Lab Safety Manual).
c. Recycling of unused and reusable chemicals in teaching and research laboratories.

3. Compliance with regulations
To ensure that UAH is in compliance with federal, state, and local regulations regarding packing, labeling, storage, transportation, and disposal of hazardous chemical wastes.

Wastes requiring special consideration that are not hazardous chemical wastes are:

1. Non-hazardous solid waste includes garbage, rubbish, paper, cardboard, aluminum cans, and glass. These items are collected and disposed of by the Grounds Department of Facilities and Operations. Glass from laboratory operations must be thoroughly rinsed and or decontaminated and disposed of in a glass receptacle. Persons responsible for the laboratory must securely seal these containers prior to removal from the laboratory.

2. Bio-hazardous waste includes, but is not limited to, tissue specimens, preserved specimens, and blood or other body fluids (Refer to the Biological Safety Plan for a complete listing). Departments generating bio-hazardous waste must have procedures in place for disposal of these wastes.

3. Low level radioactive waste includes, but is not limited to, radioactive solid lab trash, radioactive aqueous based wastes, radioactive flammable solvent based wastes, and liquid scintillation solutions. Disposal of radioactive waste is managed under the guidelines established in the UAH Radiation Safety Program. For more information contact the OEHS.

Compounds identified in the Non-hazardous Chemical Registry, Appendix B, should also be disposed of via the hazardous waste program. If they are components of a mixture with hazardous materials, the mixture is considered hazardous waste.

5.0 IDENTIFICATION AND DISPOSAL OF WASTES

The Office of Environmental Health and Safety is available to provide advice and guidance concerning the regulatory considerations of any proposed disposal. This office is also responsible for record keeping and arranging for the ultimate disposal of University generated hazardous wastes. A copy of the ADEM Administrative Code is available for review at the Office of Environmental Health and Safety or may be found at our Web Site located at www.uah.edu/admin/oehs.

6.1 HAZARDOUS WASTE DETERMINATION

The question of primary importance to most generators is "What wastes require special consideration?" On the basis of EPA criteria and the ADEM, chemical waste is considered hazardous if it is a Listed Hazardous Waste as described in 40 CFR 261 (see Appendix A). A waste is also considered hazardous if it exhibits any of the following characteristics: 1) ignitability, 2) corrosivity, 3) reactivity, or 4) toxicity; as described in Sections 5.1.1 through 5.1.4. The waste determination must be made at the point of generation.

Defined under RCRA Regulations as having one or more of the following characteristics:

EPA Listed Wastes–

- F list -nonspecific wastes (spent solvent wastes)–
- P list -acutely hazardous chemical products -unused/surplus materials–
- U list -unused/surplus chemical products

6.1 Characteristics Waste:–

6.1.1 Ignitable Waste

Any waste having a flash point of less than 60°C (140°F) is classified as an ignitable waste. The only exception is an aqueous solution containing less than 24% alcohol where alcohol is the only ignitable constituent. This exception is made because alcohol solutions at this concentration exhibit low flash points and are not capable of supporting combustion.

Conservative estimates of flash points should be made based on information found on the label of the container and on the Material Safety Data Sheets (MSDS). Secondary references such as the Merck Index, a chemical dictionary, or chemical supplier catalog may also be helpful. If the flash point is unknown, for instance with mixtures, it must be determined using a Pensky-Martens Closed Cup Tester, as specified in ASTM Standard D-93-79 or D-93-80. A Setaflash Closed Cup Tester as specified in ASTM Standard D-3278-78 may also be used.

Any chemical designated as a flammable liquid for shipping purposes will exhibit the characteristics of ignitability. Chemicals shipped as combustible liquids have flash points between 60.5°C (141°F) and 93°C (200°F), and therefore may be classified as an ignitable waste depending on the material's

actual flash point. Please note that there are different requirements for flammability classifications from EPA and the Department of Transportation (DOT).

Solids are regulated as ignitable waste if the material is capable of ignition through friction, moisture absorption, or spontaneous chemical changes and, when ignited burns so vigorously and persistently that it creates a hazard. Any solid material identified as flammable on the container, shipping paper, or MSDS, should be disposed of as a regulated ignitable waste.

RCRA also regulates oxidizers as ignitable wastes. The following common chemicals are characterized as oxidizers at certain concentrations:
Chlorates
Chromates
Chromium Trioxide
Dichromates
Hydrogen Peroxide[1]
Perchlorates
Peroxides
Permanganates
Persulfates

6.1.2 Corrosive Waste

Any waste that exhibits the characteristic of corrosivity is regulated as a hazardous waste. The regulations define this as any material with a pH of less than 2 or greater than 12.5, or any material which will corrode steel at a rate greater than 6 mm (0.25 in.) per year. Wastes included in this category are solutions of strong acids and bases in concentrations greater than 0.01N. RCRA regulations permit spent corrosives to be neutralized by the generator. Neutralization must occur in a container compatible with the chemical(s) to be neutralized and must take place at the site where the wastes are generated. Note: Any precipitated material produced during neutralization must be collected and properly characterized prior to disposal.

6.1.3 Reactive Waste

Disposal of waste that is shock sensitive, unstable, reacts violently with air or water, or generates H_2S or HCN in pH condition between 2 and 12.5 is regulated as a reactive waste. With the exception of cyanide and sulfide solutions most reactive waste should only be disposed of with the assistance of explosives experts. The generation of these wastes must be avoided whenever possible. Some common chemicals that are classified as explosives include:

Picric acid and other polynitroaromatics, in dry form
Old ethers and other peroxide forming organics
Peroxides, transition-metal salts
Perchlorate salts
Diazonium slats, when dry

[1]Hydrogen Peroxide solutions are regulated as oxidizers only in concentrations greater than 8%.

Chlorite salts of metals, such as $AgClO_2$
Azides, metal, nonmetal, and organic

Typical costs for disposing of reactive chemical wastes range from $50 to $100 per packaged pound. If containers of any of the above materials are located, contact the UAH Police immediately. Restrict area access and do not attempt to move these wastes.

6.1.4 Toxic Waste

A waste exhibits the characteristic of toxicity if, using the EPA's Toxicity Characteristic Leachate Procedure (TCLP), a representative sample of the waste contains any of the contaminants listed in Table 6-1 at the concentration equal to or greater than the regulatory limit.

Identification of materials regulated as hazardous waste is complicated by discrepancies in definitional guidelines used by the Environmental Protection Agency (EPA), Department of Transportation (DOT), and state agencies. The process of identification of hazardous chemical waste, therefore, must incorporate an understanding of the framework of EPA, DOT, and ADEM.

6.2 Acutely Hazardous Waste

Stock reagents and stock reagent containers of certain chemical compounds are strictly regulated as acutely hazardous waste. Rinsate and dilute spill cleanup material contaminated with these compounds are regulated.

Appendix A provides a list of compounds regulated under this category. Anyone planning to generate or purchase any quantity of an acutely hazardous waste should contact the OEHS prior to doing so in order to develop an appropriate waste management plan. The regulations regarding acutely hazardous wastes are much more stringent than those for other hazardous wastes. For example, accumulation at the point of generation is limited to only one quart or 1kg of an acutely hazardous waste.

6.3 Organic Solvents

RCRA identifies certain chemicals used as organic solvents under a specific set of regulatory requirements. At UAH, all organic solvents should be collected for disposal as hazardous waste.

Table 6-1
Toxicity Characteristic Contaminants

EPA HW #[1]	Contaminant	Regulatory limit(mg/L)
D004	Arsenic	5.0
D005	Barium	100.0
D018	Benzene	0.5
D006	Cadmium	1.0
D019	Carbon Tetrachloride	0.5
D020	Chlordane	0.03
D021	Chlorobenzene	100.0
D022	Chloroform	6.0

D007	Chromium	5.0
D023	o-Cresol	200.0[2]
D024	m-Cresol	200.0[2]
D025	p-Cresol	200.0[2]
D026	Cresol	200.0[2]
D016	2,4-D	10.0
D027	1,4-Dichlorobenzene	7.5
D028	1,2-Dichloroethane	0.5
D029	1,1-Dichloroethylene	0.7
D030	2,4-Dinitrotoluene	0.13[3]
D012	Endrin	0.02
D031	Heptachlor	0.008
D032	Hexachlorobenzene	0.13[3]
D033	Hexachlorobutadiene	0.5
D034	Hexachloroethane	3.0
D008	Lead	5.0
D013	Lindane	0.4
D009	Mercury	0.2
D014	Methoxychlor	10.0
D035	Methyl ethyl ketone	200.0
D036	Nitrobenzene	2.0
D037	Pentachlorophenol	100.0
D038	Pyridine	5.0
D010	Selenium	1.0
D011	Silver	5.0
D039	Tetrachloroethylene	0.7
D015	Toxaphene	0.5
D040	Trichloroethylene	0.5
D041	2,4,5-Trichlorophenol	400.0
D042	2,4,6-Trichlorophenol	2.0
DO17	2.4.5-TP Silvex	1.0
D043	Vinyl Chloride	0.2

[1]EPA hazardous waste number.
[2]Cannot be differentiated; Total Cresol is used.
[3]Quantitation limit is higher than the regulatory limit. Quantitation number therefore becomes the regulatory limit.

Typical Campus Generators of Hazardous Wastes
Chemistry–most chemicals used in labs, spent solvents, corrosives, oxidizers, reactives, heavy metals, etc.
Biology–hazardous chemicals and state regulated biological waste
Fine Arts -art studios, art lab, metal casting and sculpture studios, woodworking shop, theater shop, photography lab–oil-based paint, solvents, cleaners, acids used for etching, fixer, glues, etc.
Physical Plant -grounds, maintenance, paint shop, boiler plant–cleaning solvents, glue/adhesives, pesticides, waste oil, oil-based paints, fluorescent bulbs, HID bulbs, PCB ballasts, thermostats, etc…
Student Photography Lab–photo fixers

7.0 WASTE MINIMIZATION

To attain the UAH chemical waste management goals, the University strongly encourages its employees to utilize chemical waste minimization (waste reduction) techniques to reduce the volume and toxicity of chemical wastes produced at the University. An important benefit from waste minimization is that it reduces pollution that is directly related to quality of life indices. Even the best managed hazardous waste management programs produce quantities of pollution. Waste minimization decreases the expenses of ever- increasing chemical disposal costs. Generators should therefore modify procedures to eliminate or minimize the generation of hazardous waste by following common waste minimization techniques.

7.1 Minimizing Reactive Waste

Laboratory safety can be enhanced by the elimination of generating reactive waste by purchasing peroxide forming organics in quantities that are assured of being used within a short period of time. Containers of the following chemicals should be labeled with the date they are opened and discarded and disposed of within three months of the open date.
Diisopropyl Ether (isopropyl ether)
Divinylacetylene
Potassium metal
Potassium Amide
Sodium Amide
Vinylidine Chloride

The chemicals listed below should be dated when opened and discarded within six months of that date:

Acetyaldehyde Diethyl Acetal (acetal)
Chloroprene (2-chloro-1,3-butadiene)
Cumene (isopropyl benzene)
Cyclohexane
Cyclopentene
Decalin (decahydronaphthalene)
Diacetylene (butadiene)
Diethyl ether (ether)
Diethylene Glycol Dimethyl Ether (diglyme)
Dioxane
Ethylene Glycol Dimethylether (glyme)
Ethylene Glycol Ether Acetates
Ethylene Glycol Monoethers (cellusolve)
Furan
Methylacetylene
Methylcyclopentane
Methylisobutyl Ketone
Styrene
Tetrahydrofuran (THF)

Tertalin (tetrahydronapthalene)
Vinyl Ethers

In addition, containers of picric acid and similar compounds should be labeled with a checklist for monthly addition of water sufficient to form a paste equivalent to 10% moisture by weight. **Reactive wastes should not be moved.** Contact the OEHS to arrange for pick-up.

7.2 Minimizing Quantities

It is common practice to order larger quantities of stock chemicals than necessary to take advantage of volume discounts. As a result, aging reagents or solvents are often left for disposal. This may result in disposal costs that are greater than the original savings. It is estimated that as much as 40% of laboratory waste may result from unused stock chemicals. Besides reducing disposal costs, smaller inventories reduce potential chemical exposure to personnel, thus minimizing the risks and severity of accidents.

7.3 Recycling

Many materials treated as chemical waste are actually surplus chemicals that are reusable. To assist waste reduction it is recommended that unopened or unwanted chemicals are transferred to laboratories where they may be used. OEHS surpluses unopened or unwanted chemicals. These chemicals are saved until they are no longer re-usable or for three years, then they are discarded with hazardous waste. Recycled chemicals are provided free of charge to any interested University department or research laboratory that may have a need for these chemicals.

Laboratories are required to develop schedules for routine inventory, cleaning, and removal of chemicals that are no longer needed. These chemicals are a liability and present a future expense as waste. The OEHS can determine if these chemicals are suitable for recycling or if they should be disposed of as hazardous waste.

Note: Certain chemicals are particularly desirable for recycling and include the following:

Solvents
Acetone
Chloroform
Dichloromethane (Methylene Chloride)
Ethyl Acetate
Formaldehyde
Hexanes
Isopropyl Alcohol
Methanol
Petroleum Ether
Toluene
Xylenes

Acids
Acetic Acid (glacial)
Hydrochloric Acid
Sulfuric Acid

Oxidizers
Bromine
Potassium Chlorate
Potassium Dichromate
Silver Nitrate

7.4 Substitution

Substitution of a non-hazardous or less hazardous chemical in place of a hazardous chemical is a commonly used method of reducing waste. A simple example of this is to change a cleaning agent from a toxic, flammable solvent to an appropriate soap or detergent solution. Other examples of substitution are: 1) the use of detergent instead of chromic acid in the cleaning of glassware; 2) the use of water based paints and cements over solvent based; 3) substituting non-halogenated, non-aromatic solvents for solvents such as benzene, methylene chloride, or carbon tetrachloride; and 4) avoiding the use of potentially explosive chemicals such as ethers or picric acid whenever possible.

7.5 Reduction of Scale

Experimental laboratory procedures should be set up on as small a scale as possible. The use of methods requiring micro-quantities and equipment to handle these small volumes allow chemical reactions to be carried out on a much smaller scale than previously possible. For example, chromatographic techniques enable separation/purification of microgram quantities. Significant savings in chemicals, apparatus, and disposal costs can result.

7.6 Donations, Free Samples, and Government Surplus of Chemical Items

UAH personnel must not accept chemical donations, free samples or purchase large quantities of government surplus of chemical items that will later become a disposal problem. These items should not be accepted unless there is an immediate need and adequate storage space available. No chemical should be accepted which has a limited shelf life unless for immediate use and in exact quantities. No University representative shall accept any chemical item: 1) without an accompanying Material Safety Data Sheet, and 2) in an original labeled container, that includes a shelf life date.

7.7 Unknowns

Unknowns are a special problem in laboratories, especially with regard to a change in management and/or personnel. Therefore, it is important to incorporate maintenance schedules for routine laboratory inventories and cleanup and closeout in departmental procedures. Outdated and unwanted chemicals must be disposed of prior to personnel changes that would result in the new management of a laboratory, shop, storage facility, etc. Laboratory closeout procedures are available in the Laboratory Safety Manual.

Disregard for laboratory closeout is a primary source of University unknown chemicals. When an unknown is discovered, an intensive attempt at identification must be made. Usually consulting individuals who may have worked in the laboratory where the unknown was found can help to identify the contents. If this fails, the compound must be analyzed. Charges for chemical characterization procedures sufficient to prepare an unknown chemical for disposal are assessed by the OEHS, the analysis and disposal of "unknowns" may be charged back to the department.

Generation of unknowns should be avoided by performing periodic inspections of chemicals in the

laboratory to ensure that each is properly labeled. All waste containers must be labeled with 1) the chemical name, 2) the concentration(s), 3) the volume, and 4) the date a chemical was added to a mixture. In addition, waste containers must meet all labeling requirements as found in the Laboratory Safety Manual.

8.0 Hazardous Waste Collection Procedures

8.1 Segregation

All waste stored together must be compatible. Guidelines for segregation of chemicals as found in the Laboratory Safety Manual must be adhered to. Incompatible waste (oxidizers and organic solvents, for example) generated by a single laboratory should be separated by storing these materials in separate cabinets or shelves. Generally, classes, i.e. ignitables, corrosives, toxics, and reactives, should be segregated. This information will be listed on the label of each chemical or on the MSDS. Mixing of wastes that represent different hazard classes must be avoided.

8.1.1 Hazardous Waste Accumulation Area

All chemical waste containers must be stored in your laboratory's designated hazardous waste accumulation area (HWAA). A standardized HWAA sign must be posted in the area. This will allow for easy inspection by regulatory authorities and clearly separates waste materials from chemicals in use.

8.1.2 Closed Container Rule

It is the responsibility of the lab/generator to control all the hazardous waste generated in that lab. Also to make sure that proper procedures are followed at all times by students, workers, visitors etc. Storage containers must be tightly capped at all times except when pouring waste. Waste containers venting out to the atmosphere is prohibited by law.

8.2 Packaging and Containers

Hazardous waste must be collected by generators in containers that meet Department of Transportation specifications. The same container or type of container in which a reagent was shipped will meet the specifications for shipment as waste. Laboratories purchasing solvents in bulk should package the solvent waste in one-gallon metal or glass containers with screw cap closures. Laboratories generating solvent waste in bulk may use five-gallon safety cans for the collection of waste in the laboratory. Laboratory waste containers will be picked up by OEHS personnel for bulk disposal into a 30 or 55-gallon drum. It is imperative for the safety of the OEHS employee that correct labeling is applied to the chemical waste container. UAH laboratories may have their waste containers picked up by submitting a pick up request through CHEMATIX™. All empty waste containers will be returned to the generating laboratory. Chlorinated organic solvents must be kept separate from non-chlorinated organic solvents. Separation of organic chlorinated and non-chlorinated solvents is essential due to the higher expense associated with disposal of chlorinated solvents. Mixtures of organic solvent waste that contain any proportion of chlorinated solvent

are considered chlorinated for disposal purposes. Low molecular weight ethers, such as diethyl ether, must be collected in a one-quart glass or metal container for incineration. Organic chemicals are generally collected in glass containers. Acids and bases should be collected and stored in glass or high-density polyethylene containers. Wastes containing hydrogen fluoride should also be stored and transported in DOT approved plastic containers. Powerful or toxic oxidizers should be collected in glass containers with Teflon lined caps. Waste for disposal should be placed in the smallest compatible container.

Keep containers closed. All chemical waste containers must be kept closed except when being used for the addition or removal of wastes. One of the most common cited safety hazards in University laboratories is open containers and labeling deficiencies.

8.3 Labeling

Each container must be labeled according to the guidelines outlined in the Laboratory Safety Manual.. You must complete a CHEMATIX™ Waste Card for all wastes submitted for disposal. The waste card serves as a label. If you have not been trained on making a waste determination please contact OEHS to assist when you start a new bottle.

8.4 Inspection

Generators must inspect their accumulation areas to make sure that collection containers are clean, closed, properly labeled, segregated, and not leaking. In addition, generators must post a copy of the UAH hazardous waste management plan and inform all laboratory personnel of its location. The OEHS will conduct periodic inspections of laboratories known to generate hazardous waste to ensure compliance with this program and the hazardous waste regulations. Laboratory Audits are performed annually by OEHS. Results from these audits can be found in CHEMATIX™.

8.5 Initiating Waste Removal

To request a waste pick up, submit a Waste Pickup Worksheet through CHEMATIX™. Each container must have the CHEMATIX™ Waste Card attached before it will be removed. OEHS will not pick up waste that does not have a Waste Card attached to the container.

The OEHS coordinates the removal of chemical waste from the UAH campus a minimum of every 180 days, or as needed. In the event the UAH generator status increases from a small to a large quantity generator the frequency of disposal will increase to a minimum 90-day interval.

Note: The accumulation of over 55 gallons of waste or one quart of acutely hazardous waste in any facility except the authorized UAH waste storage area is not allowed under RCRA regulations. If a laboratory expects to generate quantities in excess of these limits within a three-month period, arrangements must be made with the OEHS to schedule pickups more frequently. The University's hazardous waste disposal contractor will under special circumstances accept pressurized cylinders for disposal. Reusable cylinders should be returned to the supplier or manufacturer as soon as possible upon becoming empty as suppliers charge the University for rental of cylinders. Disposable cylinders should be completely emptied, the valve removed and the cylinder disposed of as solid waste.

9.0 EPA Empty Chemical Container Management

The EPA provides a specific definition of empty for containers that held hazardous chemicals:

1. A container or an inner liner removed from a container that has held any hazardous waste, is empty if:
   I. All wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g. pouring, pumping, and aspirating, and
   II. No more than 2.5 centimeters (one inch) of residue remain on the bottom of the container or inner liner, or
      a. No more than 3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 119 gallons in size; or
      b. No more than 0.3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is greater than 119 gallons in size.

2. A container that has held a hazardous waste that is a compressed gas is empty when the pressure in the container approaches atmospheric.

3. A container or an inner liner removed from a container that has held an acute hazardous waste listed is empty if:
   I. The container or inner liner has been triple rinsed using a solvent capable of removing the commercial chemical product or manufacturing chemical intermediate;
   II. The container or inner liner has been cleaned by another method that has been shown in the scientific literature, or by tests conducted by the generator, to achieve equivalent removal; or
   III. In the case of a container, the inner liner that prevented contact of the commercial chemical product or manufacturing chemical intermediate with the container, has been removed.

Laboratory Empty Chemical Container Management

- It is the responsibility of the OEHS to approve the disposal of chemical containers. Contact the OEHS prior to disposing any chemical container.
- Empty containers that held acutely toxic hazardous wastes (P-list) are managed as hazardous waste and given to OEHS for disposal. DO NOT TRIPLE RINSE. Keep the containers closed at all times. These are collected and disposed of by the OEHS.
- Empty containers of highly odoriferous materials like -thiols or mercaptans must also be given to OEHS for disposal to avoid creating odor issues in the lab or hallways. Empty containers of odoriferous materials should be placed into a bag and stored inside a fume hood until OEHS collects them for disposal. Submit a pick up request through CHEMATIX™ for disposal.
- All other containers - cross out original label with black marker and place your initials legibly on container.
- Remove and discard caps, place container in box designated for glassware disposal. When the box is full, secure the lid and tape it to the box. Place them in the hallway. The Custodial department removes these boxes.

10. Miscellaneous Waste Rules

Compressed Gas Cylinders - Disposal of compressed gas cylinders can cost hundreds of dollars depending upon the nature of the gas. Purchasing compressed gas in a returnable and/or refillable lecture bottle or cylinder could save money.

Gas Cylinder Return - It is the responsibility of the user/department to contact the manufacturer or vendor of the cylinder to confirm their policy on returns. Follow the instructions given by the vendor to ship or return the cylinder.

Hazardous Waste Disposal - Any gas cylinder that is not returnable will require management as a hazardous waste. The chemical gas mixture must be clearly identified on the "hazardous waste" label. The approximate pressure (psi) must also be noted on the label**.**

Volatilization - Volatile toxic substances should never be disposed of by evaporation in a fume hood. Such substances should be collected in suitable containers and properly labeled. Follow disposal procedures outlined in Section 8.0.

Asbestos - Asbestos and asbestos contaminated materials may not be cleaned up by University personnel unless, 1) personnel have received 16 hour asbestos awareness training, 2) personnel have completed respiratory protection training, 3) personnel participate in the medical surveillance program, and 4) adequate exposure monitoring is performed.

Sharps - All needles from syringes must be removed before disposal and placed in a sharps container.

Infectious – Follow all guidelines as listed in the biological waste disposal guide.

Paints

Latex - Water-based paints that are left over may be converted to a non-hazardous solid waste by adding a suitable filler material (vermiculite, cat litter) to completely solidify all paint –leave paint lid off can and dispose of completely solid and dry paint waste in the dumpster. **Preferred method is recycling through vendor by keeping all the left over paint in a good condition.** Wet latex paint should never be placed in the dumpster/trash.

Oil-Base - Oil-based left over paints must be collected and disposed of as hazardous waste. Store in designated Hazardous Waste Accumulation Area with CHEMATIX™ Waste Label attached. OEHS will provide the correct 55 gallon drum type if bulk packaging is desired. Do not mix in any two part or epoxy type paints! Try to substitute oil- based paint with water-based paint whenever possible to reduce the amount of hazardous waste generated. If there is excess oil-based paint, try to use it up completely by applying an extra coat over the intended area.

Bulbs, Lamps and Thermostats - All fluorescent bulbs/lamps and HID bulbs, thermostats should be disposed of as UNIVERSAL WASTE and sent to a certified recycler. Label storage area and boxes of used bulbs. Follow all guidelines provided in the Universal Waste Management Plan.

11.0 EMERGENCY PROCEDURES

Emergency procedures for spills and injuries are provided in the Laboratory Safety Manual and on the OEHS web site. UAH will utilize the Huntsville Fire Department HazMat Response Unit for emergency response actions involving unknown chemicals and spills requiring fully encapsulating personal protective equipment. All spills must be reported immediately to the UAH Public Safety Office at 824-6911. All laboratories must post UAH emergency phone numbers as provided in Appendix A of the Laboratory Safety Manual.

12.1 RESPONSIBILITY AND ENFORCEMENT

The establishment and enforcement of the Hazardous Waste Management Plan is under the auspices of the OEHS which acts in an advisory capacity to the Assistant VP for Facilities and Operations. The OEHS will review policies, hear complaints and make final recommendations to the AVP regarding policies related to hazardous materials on campus.

Audits of satellite waste accumulation areas on campus will be conducted on a periodic basis in a manner similar to those conducted by regulatory agencies. If there are any noted deficiencies, an audit report that includes an explanation of the deficiency will be sent to the person in charge of the laboratory. Although many deficiencies may seem trivial (open container), any infraction is a violation of the hazardous waste regulations and must be corrected. The PI must respond to the finding in the CHEMATIX™ system within 30 days. If no response is received within 30 days, the Chair of the Department will be informed. All inspection reports will be kept on file and will be available for state and federal regulatory authorities to review.

OEHS will conduct a regular inspection of the 180 day accumulation areas at least every seven days to comply with state and federal regulations. The current inspection record will be maintained in the accumulation area and past inspection records will be kept in the OEHS.

Due to the seriousness of non-compliance and/or complacency with existing Federal, State and local regulations, which may result in civil and/or criminal liabilities, the policies and guidelines presented in this document must be followed as a minimum. Failure to comply, blatant disregard, or multiple infractions may result in disciplinary action not excluding termination of employment.

Lists of Hazardous Wastes

(1) General.

(a) A solid waste is a hazardous waste if it is listed below, unless it has been excluded from this list under 335-14-1-.03(2). (Alabama Administrative Code)

(b) ADEM has indicated its basis for listing the classes or types of wastes by employing one or more of the following Hazard Codes:

Ignitable Waste	(I)
Corrosive Waste	(C)
Reactive Waste	(R)
Toxicity Characteristic Waste	(E)
Acute Hazardous Waste	(H)
Toxic Waste	(T)

(c) Each hazardous waste listed in this appendix is assigned an EPA or Alabama Hazardous Waste Number which precedes the name of the waste. This number must be used in complying with the notification requirements of Section 3010 of the RCRA and certain recordkeeping and reporting requirements under Chapters 335-14-3 through 335-14-6, 335-14-8, and 335-14-9.

(d) The following hazardous wastes listed in paragraphs (2) or (3) of this section are subject to the exclusion limits for acutely hazardous wastes established in 335-14-2-.01(5): EPA Hazardous Wastes Nos. F020, F021, F022, F023, F026, and F027.

(2) Hazardous wastes from non-specific sources.

(a) The following solid wastes are listed hazardous waste from non-specific sources unless they are excluded under § 260.20 of 40 CFR and 335-14-1-.03(2) and listed in 335-14-2-Appendix IX. Only the items applicable to UAH at the time of printing this manual have been included. Refer to the CFR on-line for more information.

Hazardous Waste Number	Hazardous Waste	Hazard Code
Generic:		
F001	The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F002	The following spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F003	The following spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(I)*
F004	The following spent non-halogenated solvents: cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F005	The following spent non-halogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane;	(I,T)

Hazardous Waste Number	Hazardous Waste	Hazard Code
	all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	
F007	Spent cyanide plating bath solutions from electroplating operations.	(R,T)
F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.	(R,T)
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.	(R,T)
F010	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.	(R,T)
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.	(R,T)

* (I,T) should be used to specify mixtures containing ignitable and toxic constituents.

(b) Listing Specific Definitions:

1. For the purposes of the F037 and F038 listings, oil/ water/solids is defined as oil and/or water and/or solids.

2. (i) For the purposes of the F037 and F038 listings, aggressive biological treatment units are defined as units which employ one of the following four treatment methods: activated sludge; trickling filter; rotating biological contactor for the continuous accelerated biological oxidation of wastewaters; or high-rate aeration. High-rate aeration is a system of surface impoundments or tanks, in which intense mechanical aeration is used to completely mix the wastes, enhance biological activity, and

(I) the units employ a minimum of 6 hp per million gallons of treatment volume; and either

(II) the hydraulic retention time of the unit is no longer than 5 days; or

(III) the hydraulic retention time is no longer than 30 days and the unit does not generate a sludge that is a hazardous waste by the Toxicity Characteristic;

(ii) Generators and treatment, storage and disposal facilities have the burden of proving that their sludges are exempt from listing as F037 and F038 wastes under this definition. Generators and treatment, storage and disposal facilities must maintain, in their operating or other on-site records, documents and data sufficient to prove that:

(I) the unit is an aggressive biological treatment unit as defined in this subparagraph; and

(II) the sludges sought to be exempted from the definitions of F037 and/or F038 were actually generated in the aggressive biological treatment unit.

3. (i) For the purposes of the F037 listing, sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement.

(ii) For the purposes of the F038 listing,

(I) sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement, and

(II) floats are considered to be generated at the moment they are formed in the top of the unit.

(3) Hazardous wastes from specific sources.

Solid wastes that are listed hazardous wastes from specific sources have not been listed in this reference document because at the time of printing none applied to UAH research and learning activities.

(4) Commercial Chemical Products

Commercial chemical products that are in their pure state are out of date or off specification are hazardous wastes if listed below. Those wastes that have an EPA identification number beginning with the letter P are considered acutely hazardous. No more than 1 liter of acutely hazardous waste can be generated at UAH per month. In the event that more than 1 liter of acutely hazardous waste is generated in a one month period UAH will become a large quantity generator and must abide by the rules and regulations set forth by local, state and federal governmental authorities.

Hazardous Waste No.	Chemical Abstracts No.	Substance
P023	107-20-0	Acetaldehyde, chloro-
P002	591-08-2	Acetamide, N-(aminothioxomethyl)-
P057	640-19-7	Acetamide, 2-fluoro-
P058	62-74-8	Acetic acid, fluoro-, sodium salt
P002	591-08-2	1-Acetyl-2-thiourea
P003	107-02-8	Acrolein
P070	116-06-3	Aldicarb
P203	1646-88-4	Aldicarb sulfone
P004	309-00-2	Aldrin

Hazardous Waste No.	Chemical Abstracts No.	Substance
P005	107-18-6	Allyl alcohol
P006	20859-73-8	Aluminum phosphide (R,T)
P008	504-24-5	5-(Aminomethyl)-3-isoxazolol
P007	2763-96-4	4-Aminopyridine
P009	131-74-8	Ammonium picrate (R)
P119	7803-55-6	Ammonium vanadate
P099	506-61-6	Argentate(1-), bis(cyano-C)-, potassium
P010	7778-39-4	Arsenic acid H_3AsO_4
P012	1327-53-3	Arsenic oxide As_2O_3
P011	1303-28-2	Arsenic oxide As_2O_5
P011	1303-28-2	Arsenic pentoxide
P012	1327-53-3	Arsenic trioxide
P038	692-42-2	Arsine, diethyl-
P036	696-28-6	Arsonous dichloride, phenyl-
P054	151-56-4	Aziridine
P067	75-55-8	Aziridine, 2-methyl-
P013	542-62-1	Barium cyanide
P024	106-47-8	Benzenamine, 4-chloro-
P077	100-01-6	Benzenamine, 4-nitro-
P028	100-44-7	Benzene, (chloromethyl)-
P042	51-43-4	1,2-Benzenediol, 4-[1-hydroxy-2-(methyl-amino)ethyl]-, (R)-
P046	122-09-8	Benzeneethanamine, alpha, alpha-dimethyl-
P014	108-98-5	Benzenethiol
P127	1563-66-2	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate
P188	57-64-7	Benzoic acid, 2-hydroxy-,compd. With (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo [2,3-b]indol-5-yl methylcarbamate ester (1:1)
P001	[1] 81-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%
P028	100-44-7	Benzyl chloride
P015	7440-41-7	Beryllium powder
P017	598-31-2	Bromoacetone
P018	357-57-3	Brucine

Hazardous Waste No.	Chemical Abstracts No.	Substance
P045	39196-18-4	2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[methylamino)carbonyl] oxime
P021	592-01-8	Calcium cyanide
P021	592-01-8	Calcium cyanide $Ca(CN)_2$
P189	55282-14-8	Carbamic acid, [(dibutylamino)-thio]methyl-2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester
P191	644-64-4	Carbamic acid, dimethyl-, 1-[(dimethyl-amino) carbonyl]-5-methyl-1H-pyrozol-3-yl ester
P192	119-38-0	Carbamic acid, dimethyl-, 3-methyl-1-(1-methylethyl)-1H-pyrazol-5-yl ester
P190	1129-41-5	Carbamic acid, methyl-, 3-methylphenyl ester
P127	1563-66-2	Carbofuran
P022	75-15-0	Carbon disulfide
P095	75-44-5	Carbonic dichloride
P189	55285-14-8	Carbosulfan
P023	107-20-0	Chloroacetaldehyde
P024	106-47-8	p-Chloroaniline
P026	5344-82-1	1-(o-Chlorophenyl)thiourea
P027	542-76-7	3-Chloropropionitrile
P029	544-92-3	Copper cyanide
P029	544-92-3	Copper cyanide Cu(CN)
P202	64-00-6	m-Cumenyl methylcarbamate
P030		Cyanides (soluble cyanide salts), not otherwise specified
P031	460-19-5	Cyanogen
P033	506-77-4	Cyanogen chloride
P033	506-77-4	Cyanogen chloride (CN)Cl
P034	131-89-5	2-Cyclohexyl-4,6-dinitrophenol
P016	542-88-1	Dichloromethyl ether
P036	696-28-6	Dichlorophenylarsine
P037	60-57-1	Dieldrin
P038	692-42-2	Diethylarsine
P041	311-45-5	Diethyl-p-nitrophenyl phosphate
P040	297-97-2	O,O-Diethyl O-pyrazinyl phosphorothioate
P191	644-64-4	Dimetilan
P043	55-91-4	Diisopropylfluorophosphate (DFP)
P004	309-00-2	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-

Hazardous Waste No.	Chemical Abstracts No.	Substance
		hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)-
P060	465-73-6	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha, 4abeta,5beta,8beta,8abeta)-
P037	60-57-1	2,7:3,6-Dimethanonaphth[2,3-b]oxirene,3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1alpha,2beta, 2alpha,3beta,6beta,6alpha,7beta, 7alpha)-
P051	[1]72-20-8	2,7:3,6-Dimethanonaphth [2,3-b]oxirene,3,4,5,6,9, 9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1alpha,2beta, 2beta,3alpha,6alpha,6beta,7beta, 7alpha)-, & metabolites
P044	60-51-5	Dimethoate
P046	122-09-8	alpha, alpha-Dimethylphenethylamine
P047	[1]534-52-1	4,6-Dinitro-o-cresol, & salts
P048	51-28-5	2,4-Dinitrophenol
P020	88-85-7	Dinoseb
P085	152-16-9	Diphosphoramide, octamethyl-
P111	107-49-3	Diphosphoric acid, tetraethyl ester
P039	298-04-4	Disulfoton
P049	541-53-7	Dithiobiuret
P185	26419-73-8	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, o-[(methylamino)-carbonyl]oxime
P050	115-29-7	Endosulfan
P088	145-73-3	Endothall
P051	72-20-8	Endrin
P051	72-20-8	Endrin, & metabolites
P042	51-43-4	Epinephrine
P031	460-19-5	Ethanedinitrile
P066	16752-77-5	Ethanimidothioic acid, N-[[(methylamino)carbonyl] oxy]-, methyl ester
P194	23135-22-0	Ethanimidothioc acid, 2-(dimethylamino)-N-[[(methylamino) carbonyl]-2-oxo]-, methyl ester
P101	107-12-0	Ethyl cyanide
P054	151-56-4	Ethyleneimine
P097	52-85-7	Famphur

Hazardous Waste No.	Chemical Abstracts No.	Substance
P056	7782-41-4	Fluorine
P057	640-19-7	Fluoroacetamide
P058	62-74-8	Fluoroacetic acid, sodium salt
P198	23422-53-9	Formetanate hydrochloride
P197	17702-57-7	Formparanate
P065	628-86-4	Fulminic acid, mercury(2+) salt (R,T)
P059	76-44-8	Heptachlor
P062	757-58-4	Hexaethyl tetraphosphate
P116	79-19-6	Hydrazinecarbothioamide
P068	60-34-4	Hydrazine, methyl-
P063	74-90-8	Hydrocyanic acid
P063	74-90-8	Hydrogen cyanide
P096	7803-51-2	Hydrogen phosphide
P060	465-73-6	Isodrin
P192	119-38-0	Isolan
P202	64-00-6	3-Isopropylphenyl N-methylcarbamate
P007	2763-96-4	3(2H)-Isoxazolone, 5-(aminomethyl)-
P196	15339-36-3	Manganese, bis(dimethylcarbamodithioato-S,S')-,
P196	15339-36-3	Manganese dimethyldithiocarbamate
P092	62-38-4	Mercury, (acetato-O)phenyl-
P065	628-86-4	Mercury fulminate (R,T)
P198	23422-53-9	Methanimidamide, N,N-dimethyl-N'-[3-[[(methylamino)-carbonyl]oxy]phenyl]-, monohydrochloride
P197	17702-57-7	Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[[(methylamino)carbonyl]oxl]phenyl]-
P199	2032-65-7	Methiocarb
P082	62-75-9	Methanamine, N-methyl-N-nitroso-
P064	624-83-9	Methane, isocyanato-
P016	542-88-1	Methane, oxybis[chloro-
P112	509-14-8	Methane, tetranitro-(R)
P118	75-70-7	Methanethiol, trichloro-
P050	115-29-7	6,9-Methano-2,4,3-benzodioxathiepin,6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide
P059	76-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-

Hazardous Waste No.	Chemical Abstracts No.	Substance
		heptachloro-3a,4,7,7a-tetrahydro-
P190	1129-41-5	Metolcarb
P066	16752-77-5	Methomyl
P068	60-34-4	Methyl hydrazine
P064	624-83-9	Methyl isocyanate
P069	75-86-5	2-Methyllactonitrile
P071	298-00-0	Methyl parathion
P128	315-8-4	Mexacarbate
P072	86-88-4	alpha-Naphthylthiourea
P073	13463-39-3	Nickel carbonyl
P073	13463-39-3	Nickel carbonyl $Ni(CO)_4$, (T-4)-
P074	557-19-7	Nickel cyanide
P074	557-19-7	Nickel cyanide $Ni(CN)_2$
P075	[1] 54-11-5	Nicotine, & salts
P076	10102-43-9	Nitric oxide
P077	100-01-6	p-Nitroaniline
P078	10102-44-0	Nitrogen dioxide
P076	10102-43-9	Nitrogen oxide NO
P078	10102-44-0	Nitrogen oxide NO_2
P081	55-63-0	Nitroglycerine (R)
P082	62-75-9	N-Nitrosodimethylamine
P084	4549-40-0	N-Nitrosomethylvinylamine
P085	152-16-9	Octamethylpyrophosphoramide
P087	20816-12-0	Osmium oxide OsO_4, (T-4)-
P087	20816-12-0	Osmium tetroxide
P088	145-73-3	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P194	2315-22-0	Oxamyl
P089	56-38-2	Parathion
P034	131-89-5	Phenol, 2-cyclohexyl-4,6-dinitro-
P128	315-18-4	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester)
P199	2032-65-7	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate
P048	51-28-5	Phenol, 2,4-dinitro-
P047	[1]534-52-1	Phenol, 2-methyl-4,6-dinitro, & salts
P202	64-00-6	Phenol, 3-(1-methylethyl)-, methyl carbamate

Hazardous Waste No.	Chemical Abstracts No.	Substance
P201	2631-37-0	Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate
P020	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-
P009	131-74-8	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P092	62-38-4	Phenylmercury acetate
P093	103-85-5	Phenylthiourea
P094	298-02-2	Phorate
P095	75-44-5	Phosgene
P096	7803-51-2	Phosphine
P041	311-45-5	Phosphoric acid, diethyl 4-nitrophenyl ester
P039	298-04-4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester
P094	298-02-2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester
P044	60-51-5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester
P043	55-91-4	Phosphorofluoridic acid, bis(1-methylethyl) ester
P089	56-38-2	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester
P040	297-97-2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P097	52-85-7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl] phenyl] O,O-dimethyl ester
P071	298-00-0	Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl) ester
P204	57-47-6	Physostigmine
P188	57-64-7	Physostigmine salicylate
P110	78-00-2	Plumbane, tetraethyl-
P098	151-50-8	Potassium cyanide
P098	151-50-8	Potassium cyanide K(CN)
P099	506-61-6	Potassium silver cyanide
P070	116-06-3	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino) carbonyl]oxime
P201	2631-37-0	Promecarb
P203	1646-88-4	Propanal, 2-, methyl-2-(methyl-sulfonyl)-, O-[(methylamino)carbonyl] oxime
P101	107-12-0	Propanenitrile

Hazardous Waste No.	Chemical Abstracts No.	Substance
P027	542-76-7	Propanenitrile, 3-chloro-
P069	75-86-5	Propanenitrile, 2-hydroxy-2-methyl-
P081	55-63-0	1,2,3-Propanetriol, trinitrate (R)
P017	598-31-2	2-Propanone, 1-bromo-
P102	107-19-7	Propargyl alcohol
P003	107-02-8	2-Propenal
P005	107-18-6	2-Propen-1-ol
P067	75-55-8	1,2-Propylenimine
P102	107-19-7	2-Propyn-1-ol
P008	504-24-5	4-Pyridinamine
P075	[1]54-11-5	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, and salts
P204	57-47-6	Pyrrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a-hexahydro- 1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)-
P114	12039-52-0	Selenious acid, dithallium(1+) salt
P103	630-10-4	Selenourea
P104	506-64-9	Silver cyanide
P104	506-64-9	Silver cyanide (Ag(CN)
P105	26628-22-8	Sodium azide
P106	143-33-9	Sodium cyanide
P106	143-33-9	Sodium cyanide Na(CN)
P108	[1]57-24-9	Strychnidin-10-one, and salts
P018	357-57-3	Strychnidin-10-one, 2,3-dimethoxy-
P108	[1]57-24-9	Strychnine, & salts
P115	7446-18-6	Sulfuric acid, dithallium(1+) salt
P109	3689-24-5	Tetraethyldithiopyrophosphate
P110	78-00-2	Tetraethyl lead
P111	107-49-3	Tetraethyl pyrophosphate
P112	509-14-8	Tetranitromethane (R)
P062	757-58-4	Tetraphosphoric acid, hexaethyl ester
P113	1314-32-5	Thallic oxide
P113	1314-32-5	Thallium oxide Tl_2O_3
P114	12039-52-0	Thallium(1) selenite
P115	7446-18-6	Thallium(l) sulfate
P109	3689-24-5	Thiodiphosphoric acid, tetraethyl ester

Hazardous Waste No.	Chemical Abstracts No.	Substance
P045	39196-18-4	Thiofanox
P049	541-53-7	Thioimidodicarbonic diamide[$(H_2N)C(S)]_2NH$
P014	108-98-5	Thiophenol
P116	79-19-6	Thiosemicarbazide
P026	5344-82-1	Thiourea, (2-chlorophenyl)-
P072	86-88-4	Thiourea, 1-naphthalenyl-
P093	103-85-5	Thiourea, phenyl-
P185	26419-73-8	Tirpate
P123	8001-35-2	Toxaphene
P118	75-70-7	Trichloromethanethiol
P119	7803-55-6	Vanadic acid, ammonium salt
P120	1314-62-1	Vanadium oxide V_2O_5
P120	1314-62-1	Vanadium pentoxide
P084	4549-40-0	Vinylamine, N-methyl-N-nitroso-
P001	[1]81-81-2	Warfarin, & salts, when present at concentrations greater than 0.3%
P205	137-30-4	Zinc, bis(dimethylcarbamodithioato-S,S')-,
P121	557-21-1	Zinc cyanide
P121	557-21-1	Zinc cyanide $Zn(CN)_2$
P122	1314-84-7	Zinc phosphide Zn_3P_2, when present at concentrations greater than 10% (R,T)
P205	137-30-4	Ziram

[1] CAS Number given for parent compound only.

(f) The commercial chemical products, manufacturing chemical intermediates, or off-specification commercial chemical products referred to in the Alabama Administrative Code, are identified as toxic wastes (T) unless otherwise designated. There is a small quantity exclusion that applies to these wastes. Contact the OEHS for more information.

These wastes and their corresponding EPA Hazardous Waste Numbers are:

Hazardous Waste No.	Chemical Abstracts No.	Substance
U394	30558-43-1	A2213
U001	75-07-0	Acetaldehyde (I)
U034	75-87-6	Acetaldehyde, trichloro-
U187	62-44-2	Acetamide, N-(4-ethoxyphenyl)-
U005	53-96-3	Acetamide, N-9H-fluoren-2-yl-

Hazardous Waste No.	Chemical Abstracts No.	Substance
U240	[1] 94-75-7	Acetic acid, (2,4-dichlorophenoxy)-, salts & esters
U112	141-78-6	Acetic acid ethyl ester (I)
U144	301-04-2	Acetic acid, lead(2+) salt
U214	563-68-8	Acetic acid, thallium(1+) salt
See F027	93-76-5	Acetic acid, (2,4,5-trichloro phenoxy)-
U002	67-64-1	Acetone (I)
U003	75-05-8	Acetonitrile (I,T)
U004	98-86-2	Acetophenone
U005	53-96-3	2-Acetylaminofluorene
U006	75-36-5	Acetyl chloride (C,R,T)
U007	79-06-1	Acrylamide
U008	79-10-7	Acrylic acid (I)
U009	107-13-1	Acrylonitrile
U011	61-82-5	Amitrole
U012	62-53-3	Aniline (I,T)
U136	75-60-5	Arsinic acid, dimethyl-
U014	492-80-8	Auramine
U015	115-02-6	Azaserine
U010	50-07-7	Azirino[2',3':3,4]pyrrolo[1,2-a] indole-4,7-dione, 6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1alpha, 8beta,8aalpha,8balpha)]-
U280	101-27-9	Barban
U278	22781-23-3	Bendiocarb
U364	22961-82-6	Bendiocarb phenol
U271	17804-35-2	Benomyl
U157	56-49-5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
U016	225-51-4	Benz[c]acridine
U017	98-87-3	Benzal chloride
U192	23950-58-5	Benzamide, 3,5-dichloro-N- (1,1-dimethyl-2-propynyl)-
U018	56-55-3	Benz[a]anthracene
U094	57-97-6	Benz[a]anthracene, 7,12-dimethyl-
U012	62-53-3	Benzenamine (I,T)
U014	492-80-8	Benzenamine, 4,4'-carbonimidoylbis[N,N-dimethyl-
U049	3165-93-3	Benzenamine, 4-chloro-2-methyl-,hydrochloride

Hazardous Waste No.	Chemical Abstracts No.	Substance
U093	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-
U328	95-53-4	Benzenamine, 2-methyl-
U353	106-49-0	Benzenamine, 4-methyl-
U158	101-14-4	Benzenamine, 4,4'-methylenebis[2-chloro-
U222	636-21-5	Benzenamine, 2-methyl-,hydrochloride
U181	99-55-8	Benzenamine, 2-methyl-5-nitro-
U019	71-43-2	Benzene (I,T)
U038	510-15-6	Benzeneacetic acid, 4-chloro-alpha- (4-chlorophenyl)-alpha-hydroxy-,ethyl ester
U030	101-55-3	Benzene, 1-bromo-4-phenoxy-
U035	305-03-3	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-
U037	108-90-7	Benzene, chloro-
U221	25376-45-8	Benzenediamine, ar-methyl-
U028	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester
U069	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester
U088	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester
U102	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester
U107	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester
U070	95-50-1	Benzene, 1,2-dichloro-
U071	541-73-1	Benzene, 1,3-dichloro-
U072	106-46-7	Benzene, 1,4-dichloro-
U060	72-54-8	Benzene, 1,1'-(2,2-dichloroethyli-dene)bis[4-chloro-
U017	98-87-3	Benzene, (dichloromethyl)-
U223	26471-62-5	Benzene, 1,3-diisocyanatomethyl- (R,T)
U239	1330-20-7	Benzene, dimethyl-(I,T)
U201	108-46-3	1,3-Benzenediol
U127	118-74-1	Benzene, hexachloro-
U056	110-82-7	Benzene, hexahydro- (I)
U220	108-88-3	Benzene, methyl-
U105	121-14-2	Benzene, 1-methyl-2,4-dinitro-
U106	606-20-2	Benzene, 2-methyl-1,3-dinitro-
U055	98-82-8	Benzene, (1-methylethyl)- (I)
U169	98-95-3	Benzene, nitro-
U183	608-93-5	Benzene, pentachloro-
U185	82-68-8	Benzene, pentachloronitro-
U020	98-09-9	Benzenesulfonic acid chloride (C,R)
U020	98-09-9	Benzenesulfonyl chloride (C,R)

Hazardous Waste No.	Chemical Abstracts No.	Substance
U207	95-94-3	Benzene, 1,2,4,5-tetrachloro-
U061	50-29-3	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro-
U247	72-43-5	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy-
U023	98-07-7	Benzene, (trichloromethyl)-
U234	99-35-4	Benzene, 1,3,5-trinitro-
U021	92-87-5	Benzidine
U202	[1] 81-07-2	1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts
U203	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-
U141	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-
U090	94-58-6	1,3-Benzodioxole, 5-propyl-
U278	22781-23-3	1,3-Benzodioxol-4-ol,2,2-dimethyl-, methyl carbamate
U364	22961-82-6	1,3,Benzodioxol-4-ol,2,2-dimethyl-,
U367	1563-38-8	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-
U064	189-55-9	Benzo[rst]pentaphene
U248	[1]81-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3- (3-oxo-1-phenyl-butyl)-, & salts, when present at concentrations of 0.3% or less
U022	50-32-8	Benzo[a]pyrene
U197	106-51-4	p-Benzoquinone
U023	98-07-7	Benzotrichloride (C,R,T)
U085	1464-53-5	2,2'-Bioxirane
U021	92-87-5	[1,1'-Biphenyl]-4,4'-diamine
U073	91-94-1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-
U091	119-90-4	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-
U095	119-93-7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-
U225	75-25-2	Bromoform
U030	101-55-3	4-Bromophenyl phenyl ether
U128	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U172	924-16-3	1-Butanamine, N-butyl-N-nitroso-
U031	71-36-3	1-Butanol (I)
U159	78-93-3	2-Butanone (I,T)
U160	1338-23-4	2-Butanone, peroxide (R,T)
U053	4170-30-3	2-Butenal

Hazardous Waste No.	Chemical Abstracts No.	Substance
U074	764-41-0	2-Butene, 1,4-dichloro- (I,T)
U143	303-34-4	2-Butenoic acid, 2-methyl-,7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*),7aalpha]]-
U031	71-36-3	n-Butyl alcohol (I)
U136	75-60-5	Cacodylic acid
U032	13765-19-0	Calcium chromate
U238	51-79-6	Carbamic acid, ethyl ester
U178	615-53-2	Carbamic acid, methylnitroso-, ethyl ester
U372	10605-21-7	Carbamic acid, 1H-benzimidazol-2-yl, methyl ester
U271	17804-35-2	Carbamic acid, [1-[(butylamino)carbonyl]-1H-benzimidazol-2-yl], methyl ester
U280	101-27-9	Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butynyl ester
U373	122-42-9	Carbamic acid, phenyl-, 1-methylethyl ester
U409	23564-05-8	Carbamic acid, [1,2-phenylene bis(iminocarbonothiol)]bis-, dimethyl ester
U097	79-44-7	Carbamic chloride, dimethyl-
U114	[1]111-54-6	Carbamodithioic acid, 1,2-ethane-diylbis-, salts & esters
U062	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro- 2-propenyl) ester
U389	2303-17-5	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester
U387	52888-80-9	Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester
U279	63-25-2	Carbaryl
U372	10605-21-7	Carbendazim
U367	1563-38-8	Carbofuran phenol
U215	6533-73-9	Carbonic acid, dithallium(1+) salt
U033	353-50-4	Carbonic difluoride
U156	79-22-1	Carbonochloridic acid, methyl ester(I,T)
U033	353-50-4	Carbon oxyfluoride (R,T)
U211	56-23-5	Carbon tetrachloride
U034	75-87-6	Chloral
U035	305-03-3	Chlorambucil
U036	57-74-9	Chlordane, alpha & gamma isomers
U026	494-03-1	Chlornaphazine

Hazardous Waste No.	Chemical Abstracts No.	Substance
U037	108-90-7	Chlorobenzene
U038	510-15-6	Chlorobenzilate
U039	59-50-7	p-Chloro-m-cresol
U042	110-75-8	2-Chloroethyl vinyl ether
U044	67-66-3	Chloroform
U046	107-30-2	Chloromethyl methyl ether
U047	91-58-7	beta-Chloronaphthalene
U048	95-57-8	o-Chlorophenol
U049	3165-93-3	4-Chloro-o-toluidine, hydrochloride
U032	13765-19-0	Chromic acid H_2CrO_4, calcium salt
U050	218-01-9	Chrysene
U051		Creosote
U052	1319-77-3	Cresol (Cresylic acid)
U053	4170-30-3	Crotonaldehyde
U055	98-82-8	Cumene (I)
U246	506-68-3	Cyanogen bromide (CN)Br
U197	106-51-4	2,5-Cyclohexadiene-1,4-dione
U056	110-82-7	Cyclohexane (I)
U129	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexa-chloro-, (1alpha, 2alpha,3beta,4alpha,5alpha,6beta)-
U057	108-94-1	Cyclohexanone (I)
U130	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
U058	50-18-0	Cyclophosphamide
U240	[1] 94-75-7	2,4-D, salts and esters
U059	20830-81-3	Daunomycin
U060	72-54-8	DDD
U061	50-29-3	DDT
U062	2303-16-4	Diallate
U063	53-70-3	Dibenz[a,h]anthracene
U064	189-55-9	Dibenzo[a,i]pyrene
U066	96-12-8	1,2-Dibromo-3-chloropropane
U069	84-74-2	Dibutyl phthalate
U070	95-50-1	o-Dichlorobenzene
U071	541-73-1	m-Dichlorobenzene
U072	106-46-7	p-Dichlorobenzene
U073	91-94-1	3,3'-Dichlorobenzidine
U074	764-41-0	1,4-Dichloro-2-butene (I,T)

Hazardous Waste No.	Chemical Abstracts No.	Substance
U075	75-71-8	Dichlorodifluoromethane
U078	75-35-4	1,1-Dichloroethylene
U079	156-60-5	1,2-Dichloroethylene
U025	111-44-4	Dichloroethyl ether
U027	108-60-1	Dichloroisopropyl ether
U024	111-91-1	Dichloromethoxy ethane
U081	120-83-2	2,4-Dichlorophenol
U082	87-65-0	2,6-Dichlorophenol
U084	542-75-6	1,3-Dichloropropene
U085	1464-53-5	1,2:3,4-Diepoxybutane (I,T)
U395	5952-26-1	Diethylene glycol, dicarbamate
U108	123-91-1	1,4-Diethyleneoxide
U028	117-81-7	Diethylhexyl phthalate
U086	1615-80-1	N,N'-Diethylhydrazine
U087	3288-58-2	O,O-Diethyl S-methyl dithiophosphate
U088	84-66-2	Diethyl phthalate
U089	56-53-1	Diethylstilbesterol
U090	94-58-6	Dihydrosafrole
U091	119-90-4	3,3'-Dimethoxybenzidine
U092	124-40-3	Dimethylamine (I)
U093	60-11-7	p-Dimethylaminoazobenzene
U094	57-97-6	7,12-Dimethylbenz[a]anthracene
U095	119-93-7	3,3'-Dimethylbenzidine
U096	80-15-9	alpha,alpha-Dimethylbenzylhydro-peroxide (R)
U097	79-44-7	Dimethylcarbamoyl chloride
U098	57-14-7	1,1-Dimethylhydrazine
U099	540-73-8	1,2-Dimethylhydrazine
U101	105-67-9	2,4-Dimethylphenol
U102	131-11-3	Dimethyl phthalate
U103	77-78-1	Dimethyl sulfate
U105	121-14-2	2,4-Dinitrotoluene
U106	606-20-2	2,6-Dinitrotoluene
U107	117-84-0	Di-n-octyl phthalate
U108	123-91-1	1,4-Dioxane
U109	122-66-7	1,2-Diphenylhydrazine
U110	142-84-7	Dipropylamine (I)

Hazardous Waste No.	Chemical Abstracts No.	Substance
U111	621-64-7	Di-n-propylnitrosamine
U041	106-89-8	Epichlorohydrin
U001	75-07-0	Ethanal (I)
U174	55-18-5	Ethanamine, N-ethyl-N-nitroso-
U404	121-44-8	Ethanamine, N,N-diethyl-
U155	91-80-5	1,2,Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienyl-methyl)-
U067	106-93-4	Ethane, 1,2-dibromo-
U076	75-34-3	Ethane, 1,1-dichloro-
U077	107-06-2	Ethane, 1,2-dichloro-
U131	67-72-1	Ethane, hexachloro-
U024	111-91-1	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-
U117	60-29-7	Ethane, 1,1'-oxybis- (I)
U025	111-44-4	Ethane, 1,1'-oxybis[2-chloro-
U184	76-01-7	Ethane, pentachloro-
U208	630-20-6	Ethane, 1,1,1,2-tetrachloro-
U209	79-34-5	Ethane, 1,1,2,2-tetrachloro-
U218	62-55-5	Ethanethioamide
U226	71-55-6	Ethane, 1,1,1-trichloro-
U227	79-00-5	Ethane, 1,1,2-trichloro-
U410	59669-26-0	Ethaninidothioic acid, N,N'-[thiobis[(methylimino) carbonyloxy]]bis-, dimethyl ester
U394	30558-43-1	Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester
U359	110-80-5	Ethanol, 2-ethoxy-
U173	1116-54-7	Ethanol, 2,2'-(nitrosoimino)bis-
U004	98-86-2	Ethanone, 1-phenyl-
U395	5952-26-1	Ethanol, 2,2'-oxybis-, dicarbamate
U043	75-01-4	Ethene, chloro-
U042	110-75-8	Ethene, (2-chloroethoxy)-
U078	75-35-4	Ethene, 1,1-dichloro-
U079	156-60-5	Ethene, 1,2-dichloro-, (E)-
U210	127-18-4	Ethene, tetrachloro-
U228	79-01-6	Ethene, trichloro-
U112	141-78-6	Ethyl acetate (I)
U113	140-88-5	Ethyl acrylate (I)
U238	51-79-6	Ethyl carbamate (urethane)

Hazardous Waste No.	Chemical Abstracts No.	Substance
U117	60-29-7	Ethyl ether (I)
U114	[1] 111-54-6	Ethylenebisdithiocarbamic acid, salts & esters
U067	106-93-4	Ethylene dibromide
U077	107-06-2	Ethylene dichloride
U359	110-80-5	Ethylene glycol monoethyl ether
U115	75-21-8	Ethylene oxide (I,T)
U116	96-45-7	Ethylenethiourea
U076	75-34-3	Ethylidene dichloride
U118	97-63-2	Ethyl methacrylate
U119	62-50-0	Ethyl methanesulfonate
U120	206-44-0	Fluoranthene
U122	50-00-0	Formaldehyde
U123	64-18-6	Formic acid (C,T)
U124	110-00-9	Furan (I)
U125	98-01-1	2-Furancarboxaldehyde (I)
U147	108-31-6	2,5-Furandione
U213	109-99-9	Furan, tetrahydro- (I)
U125	98-01-1	Furfural (I)
U124	110-00-9	Furfuran (I)
U206	18883-66-4	Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-, D-
U206	18883-66-4	D-Glucose, 2-deoxy-2-[[(methyl-nitrosoamino)-carbonyl]amino]-
U126	765-34-4	Glycidylaldehyde
U163	70-25-7	Guanidine, N-methyl-N'-nitro-N-nitroso
U127	118-74-1	Hexachlorobenzene
U128	87-68-3	Hexachlorobutadiene
U130	77-47-4	Hexachlorocyclopentadiene
U131	67-72-1	Hexachloroethane
U132	70-30-4	Hexachlorophene
U243	1888-71-7	Hexachloropropene
U133	302-01-2	Hydrazine (R,T)
U086	1615-80-1	Hydrazine, 1,2-diethyl-
U098	57-14-7	Hydrazine, 1,1-dimethyl-
U099	540-73-8	Hydrazine, 1,2-dimethyl-
U109	122-66-7	Hydrazine, 1,2-diphenyl-
U134	7664-39-3	Hydrofluoric acid (C,T)

Hazardous Waste No.	Chemical Abstracts No.	Substance
U134	7664-39-3	Hydrogen fluoride (C,T)
U135	7783-06-4	Hydrogen sulfide
U135	7783-06-4	Hydrogen sulfide H2S
U096	80-15-9	Hydroperoxide, 1-methyl-1-phenylethyl- (R)
U116	96-45-7	2-Imidazolidinethione
U137	193-39-5	Indeno[1,2,3-cd]pyrene
U190	85-44-9	1,3-Isobenzofurandione
U140	78-83-1	Isobutyl alcohol (I,T)
U141	120-58-1	Isosafrole
U142	143-50-0	Kepone
U143	303-34-4	Lasiocarpine
U144	301-04-2	Lead acetate
U146	1335-32-6	Lead, bis(acetato-O)tetrahydroxytri-
U145	7446-27-7	Lead phosphate
U146	1335-32-6	Lead subacetate
U129	58-89-9	Lindane
U163	70-25-7	MNNG
U147	108-31-6	Maleic anhydride
U148	123-33-1	Maleic hydrazide
U149	109-77-3	Malononitrile
U150	148-82-3	Melphalan
U151	7439-97-6	Mercury
U152	126-98-7	Methacrylonitrile (I,T)
U092	124-40-3	Methanamine, N-methyl- (I)
U029	74-83-9	Methane, bromo-
U045	74-87-3	Methane, chloro- (I,T)
U046	107-30-2	Methane, chloromethoxy-
U068	74-95-3	Methane, dibromo-
U080	75-09-2	Methane, dichloro-
U075	75-71-8	Methane, dichlorodifluoro-
U138	74-88-4	Methane, iodo-
U119	62-50-0	Methanesulfonic acid, ethyl ester
U211	56-23-5	Methane, tetrachloro-
U153	74-93-1	Methanethiol (I,T)
U225	75-25-2	Methane, tribromo-
U044	67-66-3	Methane, trichloro-

Hazardous Waste No.	Chemical Abstracts No.	Substance
U121	75-69-4	Methane, trichlorofluoro-
U036	57-74-9	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-
U154	67-56-1	Methanol (I)
U155	91-80-5	Methapyrilene
U142	143-50-0	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-
U247	72-43-5	Methoxychlor
U154	67-56-1	Methyl alcohol (I)
U029	74-83-9	Methyl bromide
U186	504-60-9	1-Methylbutadiene (I)
U045	74-87-3	Methyl chloride (I,T)
U156	79-22-1	Methyl chlorocarbonate (I,T)
U226	71-55-6	Methyl chloroform
U157	56-49-5	3-Methylcholanthrene
U158	101-14-4	4,4'-Methylenebis(2-chloroaniline)
U068	74-95-3	Methylene bromide
U080	75-09-2	Methylene chloride
U159	78-93-3	Methyl ethyl ketone (MEK)(I,T)
U160	1338-23-4	Methyl ethyl ketone peroxide (R,T)
U138	74-88-4	Methyl iodide
U161	108-10-1	Methyl isobutyl ketone (I)
U162	80-62-6	Methyl methacrylate (I,T)
U161	108-10-1	4-Methyl-2-pentanone (I)
U164	56-04-2	Methylthiouracil
U010	50-07-7	Mitomycin C
U059	20830-81-3	5,12-Naphthacenedione, 8-acetyl-10[(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-
U167	134-32-7	1-Naphthalenamine
U168	91-59-8	2-Naphthalenamine
U026	494-03-1	Naphthalenamine, N,N'-bis(2-chloroethyl)-
U165	91-20-3	Naphthalene
U047	91-58-7	Naphthalene, 2-chloro-
U166	130-15-4	1,4-Naphthalenedione
U236	72-57-1	2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl [1,1'-biphenyl]-4,4'-diyl)bis(azo)bis[5-amino-4-

Hazardous Waste No.	Chemical Abstracts No.	Substance
		hydroxy]-, tetrasodium salt
U279	63-25-2	1-Naphthalenol, methylcarbamate
U166	130-15-4	1,4,Naphthaquinone
U167	134-32-7	alpha-Naphthylamine
U168	91-59-8	beta-Naphthylamine
U217	10102-45-1	Nitric acid, thallium(1+) salt
U169	98-95-3	Nitrobenzene (I,T)
U170	100-02-7	p-Nitrophenol
U171	79-46-9	2-Nitropropane (I,T)
U172	924-16-3	N-Nitrosodi-n-butylamine
U173	1116-54-7	N-Nitrosodiethanolamine
U174	55-18-5	N-Nitrosodiethylamine
U176	759-73-9	N-Nitroso-N-ethylurea
U177	684-93-5	N-Nitroso-N-methylurea
U178	615-53-2	N-Nitroso-N-methylurethane
U179	100-75-4	N-Nitrosopiperidine
U180	930-55-2	N-Nitrosopyrrolidine
U181	99-55-8	5-Nitro-o-toluidine
U193	1120-71-4	1,2-Oxathiolane, 2,2-dioxide
U058	50-18-0	2H-1,3,2-Oxazaphosphorin-2-amine,N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide
U115	75-21-8	Oxirane (I,T)
U126	765-34-4	Oxiranecarboxyaldehyde
U041	106-89-8	Oxirane, (chloromethyl)-
U182	123-63-7	Paraldehyde
U183	608-93-5	Pentachlorobenzene
U184	76-01-7	Pentachloroethane
U185	82-68-8	Pentachloronitrobenzene (PCNB)
See F027	87-86-5	Pentachlorophenol
U161	108-10-1	Pentanol, 4-methyl-
U186	504-60-9	1,3-Pentadiene (I)
U187	62-44-2	Phenacetin
U188	108-95-2	Phenol
U048	95-57-8	Phenol, 2-chloro-
U411	114-26-1	Phenol, 2-(1-methylethoxy)-, methylcarbamate
U039	59-50-7	Phenol, 4-chloro-3-methyl-
U081	120-83-2	Phenol, 2,4-dichloro-

Hazardous Waste No.	Chemical Abstracts No.	Substance
U082	87-65-0	Phenol, 2,6-dichloro-
U089	56-53-1	Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-
U101	105-67-9	Phenol, 2,4-dimethyl-
U052	1319-77-3	Phenol, methyl-
U132	70-30-4	Phenol, 2,2'-methylenebis[3,4,6-trichloro-
U170	100-02-7	Phenol, 4-nitro-
See F027	87-86-5	Phenol, pentachloro-
See F027	58-90-2	Phenol, 2,3,4,6-tetrachloro-
See F027	95-95-4	Phenol, 2,4,5-trichloro-
See F027	88-06-2	Phenol, 2,4,6-trichloro-
U150	148-82-3	L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-
U145	7446-27-7	Phosphoric acid, lead(2+) salt (2:3)
U087	3288-58-2	Phosphorodithioic acid, O,O-diethyl S-methyl ester
U189	1314-80-3	Phosphorous sulfide (R)
U190	85-44-9	Phthalic anhydride
U191	109-06-8	2-Picoline
U179	100-75-4	Piperidine, 1-nitroso-
U192	23950-58-5	Pronamide
U194	107-10-8	1-Propanamine (I,T)
U111	621-64-7	1-Propanamine, N-nitroso-N-propyl-
U110	142-84-7	1-Propanamine, N-propyl- (I)
U066	96-12-8	Propane, 1,2-dibromo-3-chloro-
U083	78-87-5	Propane, 1,2-dichloro-
U149	109-77-3	Propanedinitrile
U171	79-46-9	Propane, 2-nitro- (I,T)
U027	108-60-1	Propane, 2,2'-oxybis[2-chloro-
U193	1120-71-4	1,3-Propane sultone
See F027	93-72-1	Propanoic acid, 2-(2,4,5-trichloro-phenoxy)-
U235	126-72-7	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U140	78-83-1	1-Propanol, 2-methyl-(I,T)
U002	67-64-1	2-Propanone (I)
U007	79-06-1	2-Propenamide
U084	542-75-6	1-Propene, 1,3-dichloro-
U243	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-
U009	107-13-1	2-Propenenitrile
U152	126-98-7	2-Propenenitrile, 2-methyl-(I,T)

Hazardous Waste No.	Chemical Abstracts No.	Substance
U008	79-10-7	2-Propenoic acid (I)
U113	140-88-5	2-Propenoic acid, ethyl ester (I)
U118	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester
U162	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester (I,T)
U373	122-42-9	Propham
U411	114-26-1	Propoxur
U194	107-10-8	n-Propylamine (I,T)
U083	78-87-5	Propylene dichloride
U387	52888-80-9	Prosulfocarb
U148	123-33-1	3,6-Pyridazinedione, 1,2-dihydro-
U196	110-86-1	Pyridine
U191	109-06-8	Pyridine, 2-methyl-
U237	66-75-1	2,4-(1H,3H)-Pyrimidinedione, 5-[bis (2-chloroethyl) amino]-
U164	56-04-2	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
U180	930-55-2	Pyrrolidine, 1-nitroso-
U200	50-55-5	Reserpine
U201	108-46-3	Resorcinol
U202	[1] 81-07-2	Saccharin, & salts
U203	94-59-7	Safrole
U204	7783-00-8	Selenious acid
U204	7783-00-8	Selenium dioxide
U205	7488-56-4	Selenium sulfide
U205	7488-56-4	Selenium sulfide SeS_2 (R,T)
U015	79-34-5	L-Serine, diazoacetate (ester)
See F027	115-02-6	Silvex (2,4,5-TP)
U206	93-72-1	Streptozotocin
U103	18883-66-4	Sulfuric acid, dimethyl ester
U189	77-78-1	Sulfur phosphide (R)
See F027	1314-80-3	2,4,5-T
U207	93-76-5	1,2,4,5-Tetrachlorobenzene
U208	95-94-3	1,1,1,2-Tetrachloroethane
U209	630-20-6	1,1,2,2-Tetrachloroethane
U210	127-18-4	Tetrachloroethylene
See F027	58-90-2	2,3,4,6-Tetrachlorophenol
U213	109-99-9	Tetrahydrofuran (I)
U214	563-68-8	Thallium(I) acetate

Hazardous Waste No.	Chemical Abstracts No.	Substance
U215	6533-73-9	Thallium(I) carbonate
U216	7791-12-0	Thallium(I) chloride
U216	7791-12-0	Thallium chloride TlCl
U217	10102-45-1	Thallium(I) nitrate
U218	62-55-5	Thioacetamide
U410	59669-26-0	Thiodicarb
U153	74-93-1	Thiomethanol (I,T)
U244	137-26-8	Thioperoxydicarbonic diamide[$(H_2N)C(S)]_2S_2$, tetramethyl-
U409	23564-05-8	Thiophanate-methyl
U219	62-56-6	Thiourea
U244	137-26-8	Thiram
U220	108-88-3	Toluene
U221	25376-45-8	Toluenediamine
U223	26471-62-5	Toluene diisocyanate (R,T)
U328	95-53-4	o-Toluidine
U353	106-49-0	p-Toluidine
U222	636-21-5	o-Toluidine hydrochloride
U389	2303-17-5	Triallate
U011	61-82-5	1H-1,2,4-Triazol-3-amine
U227	79-00-5	1,1,2-Trichloroethane
U228	79-01-6	Trichloroethylene
U121	75-69-4	Trichloromonofluoromethane
See F027	95-95-4	2,4,5-Trichlorophenol
See F027	88-06-2	2,4,6-Trichlorophenol
U404	121-44-8	Triethylamine
U234	99-35-4	1,3,5-Trinitrobenzene (R,T)
U182	123-63-7	1,3,5-Trioxane, 2,4,6-trimethyl-
U235	126-72-7	Tris(2,3-dibromopropyl) phosphate
U236	72-57-1	Trypan blue
U237	66-75-1	Uracil mustard
U176	59-73-9	Urea, N-ethyl-N-nitroso-
U177	684-93-5	Urea, N-methyl-N-nitroso-
U043	75-01-4	Vinyl chloride
U248	[1] 81-81-2	Warfarin, & salts, when present at concentrations of 0.3% or less
U239	1330-20-7	Xylene (I)

Hazardous Waste No.	Chemical Abstracts No.	Substance
U200	50-55-5	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxy-benzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha,18beta, 20alpha)-
U249	1314-84-7	Zinc phosphide, Zn_3P_2, when present at concentrations of 10% or less

1 CAS Number given for parent compound only.

NON-REGULATED CHEMICAL WASTES

Common Non-Regulated Chemical Waste

CAS#	Chemical/Compound Name
50817B	ASCORBIC ACID
7440440A	ACTIVATED CARBON
58617A	ADENOSINE, (-)-
9002180A	AGAR
9012366A	AGAROSE
302727A	ALANINE, DL-
56417A	ALANINE, L-
338692A	ALANINE-D
UOFM1485A	ALCONOX
9005327A	ALGINIC ACID
9005383A	ALGINIC ACID, SODIUM SALT
12141467B	ALUMINUM SILICATE
10102713A	ALUMINUM SODIUM SULFATE
10043013S	ALUMINUM SULFATE, Anhydrous solid
9000026A	AMBER
9002260A	AMBERLITE IRA-410CP
56406B	AMINOACETIC ACID
9037223A	AMIOCA
7722761A	AMMONIUM PHOSPHATE MONOBASIC
7783280A	AMMONIUM PHOSPHATE, DIBASIC
528949A	AMMONIUM SALICYLATE
1002897A	AMMONIUM STEARATE
7783202A	AMMONIUM SULFATE
42739388A	AMMONIUM VALERATE
7631869C	AMORPHOUS FUMED SILICA
9037223B	AMYLOPECTIN
31566311B	ARLACEL
50817A	ASCORBIC ACID, L-
5794138A	ASPARAGINE HYDRATE, (L)-
617458A	ASPARTIC ACID, DL-
UOFM1252A	ASPHALT
112856A	BEHENIC ACID
12141467A	BENTONITE
2447576B	BENEZENESULFONAMIDE, 4-AMINO N-(5,6-DIMETHOXY-4-PYRIMIDINYL)
121346C	BENZOIC ACID, 4-HYDROXY-3-METHOXY
9012366B	BIO-GEL A
UOFM235A	BIO-LYTE AMPHOLXLES AND GELS
813934A	BISMUTH CITRATE
UOFM1252B	BITUMEN
7758874B	BONE FLOUR

507700a	BORNEOL
12069328A	BORON CARBIDE
7631869B	CAB-O-SIL
62544A	CALCIUM ACETATE
12007566A	CALCIUM BORATE
4714341A	CALCIUM CARBONATE
10043524A	CALCIUM CHLORIDE
10035048A	CALCIUM CHLORIDE DIHYDRATE
62339B	CALCIUM DISODIUM EDTA
62339A	CALCIUM DISODIU VERSENATE
299285A	CALCIUM GLYCEROPHOSPHATE
10102688A	CALCIUM IODIDE
814802A	CALCIUM LACTATE
142176A	CALCIUM OLEATE
137086A	CALCIUM PANTOTHENATE
7789777A	CALCIUM PHOSPHATE, DIBASIC
7758238A	CALCIUM PHOSPHATE, MONOBASIC
7758874A	CALCIUM PHOSPHATE, TRIBASIC
7778189A	CALCIUM SULFATE
10101414A	CALCIUM SULFATE DIHYDATE
1333864A	CARBON DIOXIDE
409212A	CARBORUNDUM
37225266A	CARBOWAX
9004324C	CARBOXYMETHYL CELLULOSE
9004324A	CARBOXYMETHYL CELLULOSE, (Sodium Salt)
461052A	CARNITINE HYDROCHLORIDE
7235407	CAROTENE, TRANS-BETA-
UOFM1274A	CASEIN HYDROLYSATE
9005463A	CASEIN, SODIUM COMPLEX
68855549A	CELITE
9004324B	CELLEX
9004357A	CELLULOSE ACETATE
9004368A	CELLULOSE ACETATE BUTYRATE
UOFM1278A	CELLULOSE PHOSPHATE
9004346A	CELLULOSE POWDER
1306383A	CERIUM (IV) OXIDE
7647178A	CESIUM CHLORIDE
7440440C	CHARCOAL OR
16291966A	CHARCOAL, ANIMAL BONE
UOFM1146A	CHELATING AGENT
1406651A	CHLOROPHYL
604353A	CHOLESTERYL ACETATE
5808140A	CHOLIC ACID
62497A	CHOLINE
77929A	CITRIC ACID
68042B	CITRIC ACID TRISODIUM SALT DIHYDRATE
68647869A	COCOANUT CHARCOAL
8029434A	CORN SYRUP
9002602A	CORTICOTROPIN
60275A	CREATININE
68199A	CYANOCOBALAMINE

10016203A	CYCLODEXTRIN HYDRATE, ALPHA-
10016203B	CYCLOHEXAAMYLOSE
923320B	CYSTINE
923320A	CYSTINE, DL-
84526B	CYTIDINE-3-MONOPHOSPHATE
84526A	CYTIDYLIC ACID, 3-
71307A	CYTOSINE
UOFM1277A	DEAE CELLULOSE
9003989A	DEOXYRIBONUCLEASE
9011181A	DEXTRAN SULFATE
9004540A	DEXTRAN T 70
9004539A	DEXTRIN
492626B	DEXTROSE
68855549B	DIATOMACEOUS EARTH
7758794A	DISODIUM PHOSPHATE
3325006A	DL-ALPHA-GLYCEROPHOSPHATE
59927B	DOPA, L-
10034998B	EPSOM SALT
2338058A	FERRIC CITRATE
10045860A	FERRIC PHOSPHATE
9007732A	FERRITIN
299296A	FERROUS GLUCONATE
1345251A	FERROUS OXIDE
9001905A	FIBRINOLYSIN
9001336A	FICIN
61790532A	FILTER AGENT, CELITE
1343880A	FLORISIL
3385033A	FLUNISOLIDE HEMIHYDRATE
2321075A	FLUOROSCEIN
UOFM233A	FOOD FLAVORINGS AND OILS
26177855A	FRUCTOSE 1,6-DIPHOSPHATE DS SALT
57487A	FRUCTOSE, D-
643130A	FRUCTOSE-6-PHOSPHATE
8031183A	FULLER'S EARTH
59234A	GALACTOSE, D-(+)
526998B	GALACTRIC ACID
9000708A	GELATIN
77065A	GIBBERELIC ACID
9007834A	GLOBULIN, GAMMA-
299274B	GLUCONIC ACID, POTASSIUM SALT
604682A	GLUCOSE PENTAACETATE, ALPHA-D-
604693A	GLUCOSE PENTAACETATE, BETA-D-
492626A	GLUCOSE, ALPHA-D
50997A	GLUCOSE, D-(+)-
5996145A	GLUCOSE-1-PHOSPHATE, ALPHA
56860A	GLUTAMIC ACID, L-
56859A	GLUTAMINE, L-
110941A	GLUTARIC ACID
50812378A	GLUTATHIONE S-TRANSFERASE
819830A	GLYCEROL 2-PHOSPHATE, DISODIUM SALT HYDRATE
31566311A	GLYCERYL MONOSTEARATE

56406A	GLYCINE
9005792A	GLUCOGEN
556503A	GLYCYLGLYCINE
7782425A	GRAPHITE POWDER
73405A	GUANINE
118003A	GUANOSINE
9000015A	GUM ARABIC
9000059A	GUM BENZOIN
90000286A	GUM GHATTI
90000297A	GUM GUAIC
90000651A	GUM TRAGACANTH
10101414B	GYPSUM
9008020A	HEMOGLOBIN
9005496A	HEPARIN
51456A	HISTAMINE
56928A	HISTAMINE DIHYDROCHLORIDE
6341248A	HISTIDINE MONOHYDROCHLORIDE MONOHYDRATE
121346A	HYDROXY-3-METHOXYBENZOIC ACID
618279A	HYDROXY-L-PROLINE, CIS-4-
51354A	HYDROXY-L-PROLINE, TRANS-4-
9004620A	HYDROXYETHYL CELLULOSE
58639A	INOSINE, (-)-
87898A	INOSITOL
9005805A	INULIN
1637736A	ISOCITRIC ACID, TRISODIUM SALT HYDRATE, DL
73325A	ISOLEUCINE, L-
1332587A	KAOLIN
9008188A	KERATIN
UOFM160A	KODALITH DEVELOPER PART A
63423A	LACTOSE, BETA-D-
8006540A	LANOLIN, WOOL FAT
UOFM91A	LECITHIN
8002435A	LECITHIN
61905A	LEUCINE, L-
7447418A	LITHIUM CHLORIDE
1393926A	LITMUS BLUE
1393926 B	LITMUS, INDICATOR
9001632A	LUSOZYME
657272A	LYSINE MONOHYDRACHLORIDE, L-
56871A	LYSINE, L-
12650883A	LYSOZYME
142723A	MAGNESIUM ACETATE
546930B	MAGNESIUM CARBONATE BASIC
3409820A	MAGNESIUM CARBONATE, BASIC
7786303A	MAGNESIUM CHLORIDE
7757860A	MAGNESIUM PHOSPHATE TRIBASE
7487889A	MAGNESIUM SULFATE
10034998A	MAGNESIUM SULFATE HEPTAHYDRATE
9050366A	MALTODEXTRIN
6363537A	MALTOSE MONOHYDRATE, D-
69658A	MANNITOL, D-

59518A	METHIONINE, DL-
63683A	METHIONINE, L-
9004675A	METHYL CELLULOSE
15507763A	METHYL HISTIDINE, L-1-
111820A	METHYL LAURATE
368161A	METHYL-L-HISTIDINE
555306A	METHYLDOPA
617049A	METHYMANNOSIDE, ALPHA
526998A	MUCIC ACID
42200339A	NADOLOL
604591A	NAPHTHOFLAVONE, ALPHA
98920B	NIACINAMIDE
98920A	NICOTINAMIDE
53598A	NICOTINAMIDE ADENINE DINUCLEOTIDE PHOSPHATE
59676A	NICOTINIC ACID
744044B	NORIT A, ACTIVATED CARBON
63428831A	NYLON
8049476A	PANCREATIN
9001734A	PAPAIN
9002646A	PARTHYROID HORMONE
9001756A	PEPSIN POWDER
UOFM77A	PETROLATUM
150301A	PHENYLALANINE, DL-
8002435B	PHOSPHATIDYL CHOLINE, L-ALPHA
9001905B	PLASMIN
9003490A	POLY(BUTYL ACRYLATE), LIQUID
25322683A	POLY(ETHYLENE GLYCOL), SOLID
9002884A	POLY(ETHYLENE), SOLID
9003274A	POLY(ISOBUTYLENE), SOLID
9003310A	POLY(ISOPRENE), SOLID
9011147A	POLY(METHYL METHACRYLATE)
25704181A	POLY(SODIUM 4-STYRENESULFONATE
9002895A	POLY(VINYL ALCOHOL), SOLID
9003332A	POLY(VINYL FORMAL), SOLID
9003398A	POLY(VINYL PYRROLIDONE), SOLID
9002817A	POLYACETYL, SOLID
9003014A	POLYACRYLIC ACID, SOLID
9003172A	POLYBUTADIENE, CIS-, SOLID
UOFM15A	POLYOLS AND POLYURETHANES
9003207A	POLYVINYL ACETATE, SOLID
127082A	POTASSIUM ACETATE
298146A	POTASSIUM BICARBONATE
1310618A	POTASSIUM BISULFITE
868144A	POTASSIUM BITARTRATE
584087A	POTASSIUM CARBONATE
7447407A	POTASSIUM CHLORIDE
866842A	POTASSIUM CITRATE
299274A	POTASSIUM FORMATE
868144B	POTASSIUM HYDROGEN TARTRATE
7681110A	POTASSIUM IODIDE
16788571A	POTASSIUM PHOSPHATE DIBASIC TRIHYDRATE

7778770A	POTASSIUM PHOSPHATE MONOBASIC, ANHYDROUS
7758114A	POTASSIUM PHOSPHATE, DIBASIC, ANHYDROUS
7778532A	POTASSIUM PHOSPHATE, TRIBASIC
7320345A	POTASSIUM PYROPHOSPHATE, TETRA
304596A	POTASSIUM SODIUM TARTRATE
7778805A	POTASSIUM SULFATE
12045782A	POTASSIUM TETRABORATE, TETRAHYDRATE
50865015A	PROTOPORPHYRIN IX, SODIUM SALT
83885B	RIBOFLAVIN
146178A	RIBOFLAVIN-5-PHOSPHATE
8050097A	ROSIN, POWDER
69727A	SALICYLIC ACID
11081406A	SEPHADEX G-15, FOR GEL FILTRATION
302841A	SERINE, DL-
56451A	SERINE, L-
7631869D	SILICA GEL
7699414A	SILICIC ACID
409212B	SILICON CARBIDE
7631869A	SILICON DIOXIDE
9016006A	SILICONE RUBBER, SOLID
127093A	SODIUM ACETATE
134032A	SODIUM ASCORBATE
144558A	SODIUM BICARBONATE
497198A	SODIUM CARBONATE
9038419A	SODIUM CELLULOSE PHOSPHATE
7647145A	SODIUM CHLORIDE
361091A	SODIUM CHOLATE
68042A	SODIUM CITRATE
7681825A	SODIUM IODIDE
13517061A	SODIUM IODIDE DIHYDRATE
10361032A	SODIUM METAPHOPHATE
143191A	SODIUM OLEATE
7558794A	SODIUM PHOSPHATE, DIBASIC, ANHYDROUS
10039324B	SODIUM PHOSPHATE DIBASIC DODECAHYDRATE
10049215A	SODIUM PHOSPHATE MONOBASICMONOHYDRATE
10101890A	SODIUM PHOSPHATE TRIBASIC DODECAHYDRATE
10039324A	SODIUM PHOSPHATE, DIBASIC
7782856A	SODIUM PHOSPHATE, DIBASIC, HEPTAHYDRATE
7558807A	SODIUM PHOSPHATE, MONOBASIC, ANHYDROUS
50813166A	SODIUM POLYMETAPHOSPHATE
9080799A	SODIUM POLYSTYRENE SULFONATE
7782696A	SODIUM POTASSIUM PHOSPHATE
304596B	SODIUM POTASSIUM TARTRATE
7722885A	SODIUM PYROPHOSPHATE
1344098A	SODIUM SILICATE
868188A	SODIUM TARTRATE
14986846A	SODIUM TETRAPHOSPHATE
12034343A	SODIUM TITANATE
7785844A	SODIUM TRIMETAPHOSPHATE
13472452A	SODIUM TUNGSTATE
50704A	SORBITOL, D-

87796A	SORBOSE, L-(-)-
UOFM1123A	STAPHYLOCOCCAL ENTEROTOXIN
9005258A	STARCH, ELECTROPHORESIS
9005849A	STARCH, SOLUBLE
9001621A	STEAPSIN
1633052A	STRONTIUM CARBONATE
57501A	SUCROSE
2447576A	SULFADOXINE
12070063A	TANTALUM CARBIDE
87694A	TARTARIC ACID, L(+)-
67038A	THIAMINE HYDROCHLORIDE
80682A	THREONINE, DL-
72195A	THREONINE, L-
9005849B	THYODENE
13463677A	TITANIUM DIOXIDE
7758874C	TRICALCIUM PHOSPHATE
7601549A	TRISODIUM PHOSPHATE, INDICATOR
9002077A	TRYPSIN
51672C	TYROSINE, D-
556025A	TYROSINE, DL-
60184A	TYROSINE, L-
9002124A	URICASE
58968A	URIDINE
72184A	VALINE, L-
121346B	VANILLIC ACID
121335A	VANILLIN
68199B	VITAMIN B12
83885A	VITAMIN B2
7695912B	VITAMIN E
59029B	VITAMIN E
83705A	VITAMIN K-5
69896A	XANTHINE
9010666A	ZEIN
7779900A	ZINC PHOSPHATE