

## Program for the Management and Disposal of Hazardous Wastes

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### Purpose

New College of Florida (NCF) shall consistently strive to insure compliance with federal and state hazardous waste regulations through development of procedures, training, and understanding, for the need to protect the environment in which we live, work, and study. Under the federal Resource Conservation and Recovery Act (RCRA), New College is responsible for the hazardous waste generated by anyone who works, lives, and visits New College. This program is designed to help guide those who may generate that waste to manage it in a safe and legal manner.

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### Definitions

**Solid Waste** - For purposes of this program, a solid waste may be any solid, liquid, or containerized gas which no longer has an appropriate and legal intended use for the College. For a legal definition, refer to the Federal Solid Waste Disposal Act (SWDA).

**Hazardous Waste** - Any solid waste (as defined by the Federal Solid Waste Disposal Act) which possess hazardous characteristics, including flammability, corrosivity, reactivity, or toxic characteristics (TCLP) as defined by the Code of Federal Regulations (40 CFR 261).

**Acutely Hazardous Waste** - Wastes listed in 40 CFR 261.33(e) often referred to as the "P" Listed wastes. Refer to Section III.

**Listed Hazardous Waste** - Any chemical or product as listed in 40 CFR 261.31 - 261.33. Listed wastes are often referred to as "D", "F", "K", "U", and "P" wastes. Refer to Section III..

**Flammable Characteristic Waste** - Any waste with a flash point of less than 140F (60C). Common flammable materials include acetone, toluene, methanol, ethers, isopropanol, duplicating fluids, rubber cement glue, paint thinner or mineral spirits, oil based paints and stains, rubbing alcohol, nail polish remover,

any aerosol containers such as spray paints and adhesives, and solvent-soaked rags.

**Corrosive Characteristic Waste** - Any liquid waste which has a pH of less than 2 (acidic) or greater than 12.5 (basic), or corrodes steel at a rate specified by EPA. Corrosive wastes may include, sulfuric acid, hydrochloric acid (muriatic acid), sodium hydroxide, drain openers (Drano) and products which contain strong acids or bases, which include many cleaning products.

**Reactive Characteristic Waste** - Any waste which is unstable, can readily undergo a violent change, reacts violently with water, is capable of detonation or explosive reaction, or contains sulfides or cyanides that have the potential for generating toxic fumes or vapors. Examples of reactive wastes include sodium and potassium metal, dry picric acid, compounds that form explosive peroxides, and cyanide plating operations.

**Toxic Characteristic Waste (or TCLP)** - a waste identified through an EPA method (Toxic Characteristic Leachate Procedure) that has the potential of forming a leachate that may cause groundwater contamination. If any product contains a constituent greater than a specified concentration as determined by the TCLP, it is a hazardous waste. Examples are products that contain benzene (many petroleum based products), cadmium (nickel cadmium batteries), lead (lead batteries and lead paints), silver (spent photofixer, silver nitrate), chromium, mercury (mercury batteries, fluorescent light tubes), etc. Refer to Section II.

**Storage Area** - Area in which hazardous wastes are temporarily stored for up to 180 days while awaiting transport to a licensed disposal facility. This is a regulated area in which all containers must be *labeled, dated, and inspected weekly*.

**Satellite Accumulation Area (SAA)** - A temporary accumulation and collection area of hazardous waste, *near the point of generation*, which is *under direct control of the person or operator generating the waste*. Waste in an approved satellite accumulation area is exempt from the 180 day time limit if other requirements are met. (NOTE: Subject to considerable interpretation and constraints by various regulators).

**Small-Quantity Generator (SQG)** - A generator of hazardous waste who generates between 100 kg and 1000 kg of waste (or less than 1 kg of acutely hazardous waste) in a calendar month. At no time can a SQG have greater than 6000 kg of hazardous waste in storage. The College is considered a small quantity generator.

**Large-Quantity Generator (LOG)** - A generator of hazardous waste who generates greater than 1000 kg (or greater than 1 kg of acutely hazardous waste) in a calendar month.

**Universal Waste** – Defined in 40 CFR 273, the universal waste program is designed to ease the regulatory burden on facilities that manage universal wastes, particularly by allowing more time for accumulation of these wastes in order to facilitate appropriate recycling or disposal. *Florida universal wastes include most rechargeable batteries; pesticides that are recalled or collected under a pesticide waste collection program; mercury-containing thermostats and devices such as manometers and switches; mercury-containing lamps such as fluorescent lamps that are recycled; and hazardous waste pharmaceuticals.*

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## Responsibility

NCF shall take every precaution against hazards normally associated with handling and disposal of hazardous chemicals and wastes to avoid human and environmental exposure. The College is a *Small Quantity Generator* (EPA ID # **FLR 982 142 499**) of hazardous waste and is thereby required to comply with Federal and State regulations governing the management and disposal of hazardous wastes. These regulations mandate that the College determine if any given waste is hazardous, and if so, manage and dispose of that waste strictly in compliance with applicable standards.

The President of the College has the ultimate responsibility to insure that hazardous wastes and materials are properly managed. That responsibility has been delegated, via appropriate vice presidents, deans, and departmental chairs to insure that all users of hazardous materials properly manage hazardous wastes generated by their operations. It shall be the responsibility of the departmental supervisor, instructor, principal investigator and/or laboratory supervisor to ensure the proper management, accumulation, and storage of all hazardous wastes generated by their respective department, laboratory, or research operation. The instructor, principle investigator, laboratory supervisor, or other departmental supervisor shall ensure that all hazardous wastes are identified at the point of generation and properly labeled and managed. The Department of Environmental Health and Safety shall insure that hazardous wastes are collected from various generators in a timely manner, verify appropriate identification and labeling information, and arrange for transportation and disposal of the waste in a safe and legal manner.

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## Procedures

### Section I

1. All hazardous waste shall be identified at the source. A material does not become a waste until it can no longer be used for its intended purpose (or is speculatively accumulated, expired, or unusable). The words **HAZARDOUS WASTE and CONTENTS** must be present on each container.
2. Each Faculty or Staff member with supervision or oversight of an activity, class, or lab generating a waste, is responsible for making a hazardous waste determination (properly identifying and characterizing the waste) on that waste product as required by 40 CFR 262.11.
3. The Department of Environmental Health and Safety will provide appropriate labels for the identification of hazardous wastes, or assist in identification of other labeling sources. See Section IV.
4. Individuals/Departments generating wastes shall insure that hazardous wastes are collected in appropriate containers which are compatible with the waste and can be tightly capped. Containers must seal tightly, may not leak, and can not have chemical residue on the exterior. (40 CFR 264, 265, 261.7, & Subpart I).
5. All hazardous waste shall be clearly labeled with all known constituents. Be sure to include both the solvent(s) and solute(s). Particular emphasis shall be placed on identifying listed and characteristic components.
6. Hazardous Waste shall be stored in dedicated, secure, and safe location within the generating area. Waste shall not be placed in a location subject to accidental breakage or spillage.

7. In order to comply with 40 CFR 265.177(c), hazardous wastes shall be segregated by a physical barrier according to hazard class, from the point of generation. Specifically, the following must be physically separate at all times by a barrier or sufficient distance: acids; bases; flammables; oxidizers; reactives. A barrier has been determined by DEP to be a cabinet, flammable storage cabinet, or a secondary containment capable of being sealed (i.e. container with a lid). Reference **Section VII** for compatibility charts.
8. A **START DATE** is not required in SAA, but is recommended. A clearly identified **START DATE** may be placed on the label on the date that waste is first added. **Do not put a date in the STORAGE DATE location.**
9. The **STORAGE DATE** must be completed when the container is moved from the SAA to the storage location.
10. Complete the other information requested on the label including department and/or research group, name of individual/researcher/supervisor providing the information, and a phone number.
11. As an NCF protocol and good practice, the SAA should be inspected weekly for proper labeling, leaking and closed containers, incompatible segregation, secondary containment, and documented.
12. Emergency contact information, including home and/or cell phone, of the individual responsible for each area should be posted.

#### **DO's and DON'T's**

**Do** use an appropriate size container for the waste generated. Under-filled containers cost the same to dispose as a filled one.

**Do not** overfill containers. Leave approximately a one to two inch air space at the top of the container. Over filled containers of volatile organics pressurize and leak in storage. Leaking containers are a violation of hazardous waste regulations and also eradicate the ink on labels.

**Do** write legibly on the label with permanent ink. Write out chemical name(s) of the components. Avoid using chemical formulas. Do not use water based felt tip markers or red ink markers.

**Do not** mix metallic mercury (Hg) with any other chemicals.

**Do** keep all organic and inorganic mercury compounds separate from other materials. Contact EH&S if a procedure uses mercuric compounds or generates a hazardous waste containing mercuric compounds.

**Do not** mix radioactive materials with any hazardous waste.

**Do not** mix biohazardous materials with any hazardous waste.

**Do not** mix incompatible materials together. If unsure of any particular combinations, use a separate container.

**Do not** store incompatible hazardous waste materials in the same cabinet, fume hood, etc.

**Do** clearly label all containers so there is no question what something is, regardless if it is a waste or a product.

**Do** call the Office of Environmental Health and Safety if you have any questions or are not sure how to manage a particular substance.

## **Section II**

### **Procedures for the Natural Sciences Building & Chemical Storage:**

1. All procedures listed in Section I above shall be followed.
2. Natural Sciences shall be responsible for managing hazardous waste from all Teaching Laboratories in Natural Sciences and Pritzker Marine Biology.
3. Each teaching/research laboratory shall be considered a **satellite accumulation area**. (40 CFR 262.34(c)).
4. Hazardous waste containers from laboratories shall be collected by designated laboratory personnel and placed in the STORAGE AREA when necessary.
5. The STORAGE DATE shall be completed on each container when removed from the laboratory (i.e. the Satellite Accumulation Area).
6. In most cases, containers will be managed in SAA until collected by the Hazardous Waste Transporter.
7. Containers may be stored in a dedicated **Hazardous Waste Storage** area of Heiser Natural Science until collected by the Hazardous Waste Transporter. Containers in this area may be stored for up to 180 days. All state and federal regulations governing Hazardous Waste Storage Areas are applicable in this area.

## **Section III**

### **Procedures for other Generating Departments (Including, but not limited to, Art, Sculpture (Humanities), Photo Dark Room (Student Government) Physical Plant (Finance and Administration), and Anthropology Lab (Social Sciences)).**

1. All procedures listed in Section I above shall be followed.
2. Departmental personnel shall be responsible for managing hazardous waste from all generating areas within the College. Areas that generate waste should prepare and anticipate for up to a six month accumulation time. However, in most cases less accumulation time will be necessary.
3. Each teaching area, lab, studio, or work area generating waste shall be considered a **satellite accumulation area**, (40 CFR 262.34(c)) thereby remaining under control of the operator. Similar operations under the control of the same operator, and near the point of generation, may be considered the same SAA.
4. In most cases, containers will be managed in SAA until collected by the Hazardous Waste Transporter.

## **Section IV**

### **Procedures for the Department of Environmental Health and Safety (EH&S):**

1. The EH&S Department will collect, or have collected, hazardous wastes from generating departments periodically, when appropriate, or requested by the generating department.
2. Requests to manage hazardous waste from individuals/departments can only be accomplished within the rules and regulations of state and federal RCRA. RCRA strictly limits transportation, storage, and management of hazardous waste, therefore, all requests may not be immediately available.
3. The EH&S Department shall verify label information including contents, generating department, hazard classification, and storage date. Any incomplete information will be obtained from the generator prior to collection and removal from the area.
4. Every waste container shall be identified with ***the contents*** and the words HAZARDOUS WASTE.
5. All hazardous waste shall be collected by the licensed contractor and removed from campus within 180 days of the storage date. All hazardous waste shall be packaged, labeled, manifested, and transported as required by applicable EPA, DOT, and state DEP regulations.
6. EH&S will maintain all manifests, drum inventory sheets, Land-ban information, and billing records related to each hazardous waste shipment.

## **Section V**

**Universal Wastes.** Any individual or department generating and managing *Universal Waste*, as described in the definitions above, specifically including fluorescent/HID bulbs, mercury-containing devices, recyclable batteries, waste pharmaceuticals, and some pesticides, must comply with the Universal Waste Management Rules and Regulations. Failing to specifically manage, collect, label, and recycle Universal Waste will result in full compliance and enforcement of RCRA Hazardous Waste regulations.

## **Section VI**

***Special Note on Used oil and Used Antifreeze.*** Similar to Universal Wastes, used oil and antifreeze must be managed as recyclable materials. Florida Statutes, Chapter 403.75 through 403.769 provide the requirements on used oil. Containers must be labeled "USED OIL FOR RECYCLING"

Antifreeze if not recycled, is subject to Hazardous Waste determinations and management regulations under RCRA. Containers must be labeled USED ANTIFREEZE FOR RECYCLING". Contact EH&S for specific requirements.

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## **Waste Minimization**

Waste minimization is federally mandated for hazardous waste generators. Each department of The New College of Florida shall take reasonable and appropriate actions to minimize the amount of hazardous waste generated by their operations, teaching, and research. Waste minimization techniques shall include, but are not limited to:

1. Eliminate hazardous materials from the process - Change or modify a process so that a hazardous waste is not produced. Or if a hazardous material is produced, it can be reintroduced back into a process. As another example, use a computer program or model demonstration to eliminate the generation of any waste products.
2. Substitute a non-hazardous or less hazardous material - Use surfactant cleaning compounds instead of chromic acid; use non-formaldehyde based fixatives in place of formalin, purchase formaldehyde-free preserved specimens, use non-hazardous scintillation fluids in place of toluene; use water-based latex paints and stains in place of oil based paints, stains, and solvents, etc.
3. Minimize the use of mercury thermometers except when necessary. Use digital or non-mercury thermometers for routine use.
4. Eliminate heavy metal paints and glazes containing lead, chromium, barium, cadmium, mercury, etc. in the Arts by replacing the colors and hues with less toxic and non-RCRA hazardous pigments.
5. Use recyclable rags sent/returned to a commercial laundry in place of paper towels and non-recyclable rags that have to be managed as Hazardous Waste.
6. Purchase small quantities/only purchase what you need - Remember that the cost of disposal often exceeds the purchase price. Check with other labs to see if they may have what is needed. *Do not purchase large quantities of materials because they are less expensive per unit volume.*
7. Explore Digital Photography over traditional film based photography requiring the use of many chemicals that become hazardous waste, particularly silver-containing fixer solutions.
8. Purchase products in pump spray bottles when available over aerosol cans. Aerosol cans must be managed as hazardous waste.
9. Use less material - Reduce the scale of procedures or process.
10. Reuse and recycle materials where practical.

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## Training

1. State and Federal regulations { 40 CFR 262.34(a) (4) and 265.16} require that training be provided to all individuals who generate hazardous waste.
2. Training shall be provided to all faculty, staff, OPS employees/student assistants, Teaching Assistants, and students working independently performing activities which generate or potentially generate a hazardous waste.
3. All individuals generating waste must be trained in waste handling activities relevant to their responsibilities. (40 CFR 262.349d)(5)(iii).
4. Training will be provided by the Department of Environmental Health and Safety at mutually convenient and prearranged times.
5. Hazardous waste training provided by other facilities or recognized organizations (e.g. University of Florida TREEO Center, Georgia Tech Continuing Education) will be evaluated on a case by case basis to determine if required topics have been covered. However, in all cases, individuals must be trained in specific procedures used by the College.

6. Training topics to be covered will include at a minimum the following:
  - a. Standard operating procedures and safety evaluations.
  - b. Hazardous waste identification and classification.
  - c. Proper labeling.
  - d. Proper containers, segregation, and storage within generating areas.
  - e. Emergency procedures and spill response.
  - f. Penalties for non-compliance.

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## Emergency Notification and Response

State and Federal regulations { 40 CFR 262.34(d)(4) } require that the College develop and maintain an Emergency Response Plan to address spills, fires and other emergencies associated with hazardous waste.

An emergency contact shall be appointed who has authority to take appropriate action and is on call 24 hours per day. The Emergency contact for the College is the **Director of Environmental Health and Safety**. A list of other contacts and phone numbers in order of contact is listed at the end of this section.

**Spills and releases of certain chemicals in excess of their Reportable Quantities (RQ) requires immediate notification of the National Response Center (1-800-424-8802) and the State Warning Point (904-413-9911 or 1-800-320-0519). A list of chemicals and their RQ's is available from the Environmental Health and Safety Office. The Director of Environmental Health and Safety or other designee should be contacted immediately if a RQ of a substance has been spilled or released.**

Spills of laboratory-quantities occur on occasion. In most cases these spills can and should be handled by laboratory personnel in a safe manner. Spilled materials and absorbents must be handled as a hazardous waste if applicable criteria are met.

Spills that cannot be handled safely by laboratory personnel should be referred to the Department of Environmental Health and Safety.

In most cases, laboratory spills can be contained and absorbed with equipment in-house. Should the spill exceed the capabilities of EH&S and lab personnel, it shall be handled through the Emergency Notification System. That system shall be activated as follows:

- a. Contact Emergency 911 or Campus Police at 487-4210. Inform them of the exact situation, chemicals and quantities involved, and the location.
- b. Campus Police shall contact the Sarasota County Emergency Notification System via the 911 system who will notify Emergency Response personnel. Campus Police will also contact the Director of EH&S or designee and other personnel as described in the New College Emergency Action Plan.
- c. The Director of EH&S or designee will determine if RQ's have been exceeded and make appropriate notification to the State Warning Point and the National Response Center.
- d. The college also maintains a contract/agreement with SWS-Eagle 24 Hour Emergency Response at 1-800-852-8878.



The DEP regulates hazardous wastes from the point of generation to disposal. A fine of up to \$50,000 per day per violation is authorized to be levied against violators of transportation, treatment, storage or disposal requirements during an enforcement action. Knowingly or repeatedly violating these rules or endangering another person can result in criminal imprisonment from 5 - 15 years and/or monetary fines from \$50,000 to \$1,000,000 per day per violation.

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## References

1. NCF Regulations Manual, Chapter 3-3004 Environmental Regulatory Compliance Procedures.
2. Florida Statutes, Chapter 403.704 and 403.721.
3. Chapter 62-730 Florida Administrative Codes, Rules of the Department of Environmental Protection (DEP).
4. Title 40, Code of Federal Regulations, Chapters 260 - 271.

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## Appendix I

### LIST OF EMERGENCY CONTACTS

#### **Campus Police 24/7 – 941-487-4210**

(Campus Police have all emergency contact information)

#### **CAMPUS EMERGENCY NUMBER X911**

(Inform them of the exact situation, chemicals and quantities involved, and the location)

Mr. Ron Hambrick, Director  
Environmental Health and Safety  
Office: 941-487-4585  
Cell: 850-712-4498

Mr. Mike Kessie, Chief  
Campus Police  
Office: 941-487-4210  
Cell: 219-746-1614

Ms. Yvette Thornton, Director  
Human Resources  
Office: 941-487-4417  
Cell: 941-993-8624

Mr. John Martin, Vice President  
Finance and Administration  
Office: 941-487-4445  
Cell: 941-705-0708

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### **EMERGENCY SPILL RESPONSE**

#### **Eagle-SWS**

<http://www.swsefr.com/>

**24/7 Contact: 877-742-4215 or 800-852-8878**

[Eagle-SWS St. Pete](#)  
6409 123rd Ave N  
Largo, FL 33773  
(727) 546-6193

[Eagle-SWS Tampa](#)  
901 McClosky Blvd.  
Tampa, FL 33605  
(813) 241-0282

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Hospital Contact:

Sarasota Memorial Hospital - (941) 917-9000

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## Appendix II

### Examples of Hazardous Waste

(including special waste that must be separated from normal trash)

#### Flammable Materials/Solvents

Mineral Spirits  
Oil-based paints/spray paint/spray adhesives  
Turpentine  
Rubber Cement  
Rubbing (isopropyl) alcohol  
Aerosol cans  
Citrus-based solvents  
Cleaning rags used w/flammable solvents  
Paints or markers, or dyes containing non-aqueous solvents

#### Corrosives

Drain Openers  
Sodium hydroxide  
Muriatic acid (hydrochloric acid)  
Sulfuric acid

#### Reactives

Sodium and potassium metal  
Sodium and potassium cyanide & solutions  
Water reactive and shock sensitive compounds

#### Other

Photofixer and any products containing silver at a concentration of >5ppm.  
Paint strippers  
Products containing methylene chloride or other chlorinated solvents  
UV lamps  
HID (sodium or mercury vapor) lamps  
Fluorescent lamps  
Ballasts or capacitors containing PCB's (Polychlorinated biphenyls)  
Nickel-cadmium or lead batteries (also silver or mercury batteries)  
Mercury switches, thermostats, thermometers, barometers, etc.

**IF YOU ARE UNSURE THAT A WASTE MATERIAL MAY BE CLASSIFIED AS A HAZARDOUS WASTE, PLEASE CONTACT THE *OFFICE OF ENVIRONMENTAL HEALTH AND SAFETY*.**

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## Appendix III

### ROUTINE CONTACTS FOR HAZARDOUS WASTE COLLECTION OR INFORMATION

Ron Hambrick, Director  
Environmental Health and Safety  
Tel: X4585  
E-mail: [rhambrick@ncf.edu](mailto:rhambrick@ncf.edu)

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## Appendix IV

### Primary Hazardous Waste Accumulation Locations on Campus

Building HSN - Heiser Natural Sciences/1<sup>st</sup> FI Chem Storage  
Building MBR - Pritzger Marine Research Laboratory  
Building HCT - Hamilton Center - Student Government (Photography)  
Building PHS - Physical Plant  
Building CFA - Caples Fine Arts (Felsmann/Isermann Fine Arts & Sculpture)

### Spill Control and Fire Extinguishing Equipment

**Spill Control and Clean-up Equipment** - Laboratories and maintenance operations using hazardous materials will on occasion spill products. The clean-up materials from spilled hazardous products may be regulated as a hazardous waste. Each area generating and accumulating hazardous waste in satellite accumulation areas, shall have spill control materials readily available for the types of waste generated.

Materials shall include at a minimum absorbents, neutralizing agents, containers, brushes and dust pans, gloves, safety glasses and goggles. Departments are encouraged to purchase and maintain the materials needed.

**Fire Control/Extinguishing Equipment** - Federal and state regulations require that fire extinguishing equipment must be readily available. Fire extinguishers are located in prominent areas in each building in accordance with the requirements of NFPA 10 and the Office of the State Fire Marshal. Chemical Storage within Heiser is equipped with an automatic and manually activated dry chemical and water fire suppression system.

**Emergency Phones** - Emergency phones are located in all classroom/laboratory buildings. Office phones are available in non-teaching, administrative and support areas. Code Blue Emergency Phones are available outside most all buildings throughout campus.

### Location of Spill Control

Building HSN – Natural Sciences – Each laboratory and laboratory support areas.  
Building HCT – Hamilton Center – Photo Lab (R 102)  
Building PHS - Physical Plant  
Building CFA - Caples Fine Arts – Painting Studio and Print Making Studio



Floor Plans

### ADDITIONAL INFORMATION

Additional information may be obtained from the following sources:

1. Laboratory Waste Management: A Guidebook, ACS Taskforce on Laboratory Waste Management; American Chemical Society, Washington, D.C. (1994).
2. Less is Better: Laboratory Chemical Management for Waste Reduction, 2nd Ed.; ACS Taskforce on Laboratory Waste Management; American Chemical Society, Washington, D.C. (1993).
3. Prudent Practices in the Laboratory: Handling and Disposal of Chemicals: National Research Council; National Academy Press; Washington, D.C. (2011).
4. Summary of Hazardous Waste Regulations; Florida Department of Environmental Protection; (1997) - See Section V.
5. Pollution Prevention and Waste Minimization in Laboratories; Reinhardt, Peter, et al; CRC Press Lewis Publishers; Boca Raton, FL; (1996).

Appendix VI

TCLP Wastes (D List)

Constituent	EPA Waste Number	Regulatory Level mg/L	Constituent	EPA Waste Number	Regulatory Level mg/L
Arsenic	D004	5	Hexachlorobenzene	D032	0.13
Barium	D005	100	Hexachlorobutadiene	D033	0.5
Benzene	D018	0.5	Hexachloroethane	D034	3
Cadmium	D006	1	Lead	D006	5
Carbon tetrachloride	D019	0.5	Lindane	D013	0.4
Chlordane	D020	0.03	Mercury	D009	0.2
Chlorobenzene	D021	100	Methoxychlor	D014	110
Chloroform	D22	6	Methyl ethyl ketone	D035	200
Chromium	D007	5	Nitrobenzene	D036	2
o-Cresol	D023	200	o-Pentachlorophenol	D037	100
m-Cresol	D024	200	Pyridine	D038	5
p-Cresol	D025	200	Selenium	D010	1
Cresol	D026	200	Silver	D011	5
2,4-D	D016	10	Tetrachloroethylene	D039	0.7
1,4-Dichlorobenzene	D027	7.5	Toxaphene	D015	0.5
1,2-Dichloroethane	D028	0.5	Trichloroethylene	D040	0.5
1,1-Dichloroethylene	D029	0.7	2,4,5-Trichlorophenol	D041	400
2,4-Dinitrotoluene	D030	0.13	2,4,6-Trichlorophenol	D042	2
Endrin	D012	0.02	2,4,5-TP (silvex)	D017	1
Heptachlor	D031	0.008	Vinyl chloride	D043	0.2

# P-Listed Wastes

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
P005	107-18-6	Allyl alcohol
P006	20859-73-8	Aluminum phosphide (R,T)
P007	2763-96-4	5-(Aminomethyl)-3-isoxazolol
P008	504-24-5	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 <sub>3</sub> AsO <sub>4</sub>
P012	1327-53-3	Arsenic oxide As <sub>2</sub> O <sub>3</sub>
P011	1303-28-2	Arsenic oxide As <sub>2</sub> O <sub>5</sub>
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-(methylamino)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	<sup>1</sup> 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
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) <sub>2</sub>
P189	55285-14-8	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- pyrazol-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
P043	55-91-4	Diisopropylfluorophosphate (DFP)
P004	309-00-2	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa- chloro-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-hexa- chloro-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-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta, 7aalpha)-
P051	<sup>1</sup> 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-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta, 7aalpha)-, & metabolites
P044	60-51-5	Dimethoate
P046	122-09-8	alpha,alpha-Dimethylphenethylamine
P191	644-64-4	Dimetilan.
P047	<sup>1</sup> 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	Diphosphoramidate, 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
P194	23135-22-0	Ethanimidothioic acid, 2-(dimethylamino)-N-[[[(methylamino) carbonyl]oxy]-2-oxo-, methyl ester.
P066	16752-77-5	Ethanimidothioic acid, N-[[[(methylamino)carbonyl]oxy]-, methyl ester
P101	107-12-0	Ethyl cyanide
P054	151-56-4	Ethyleneimine
P097	52-85-7	Famphur
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(dimethylcarbomodithioato-S,S')-,
P196	15339-36-3	Manganese dimethyldithiocarbamate.
P092	62-38-4	Mercury, (acetato-O)phenyl-
P065	628-86-4	Mercury fulminate (R,T)
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-
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]oxy]phenyl]-
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-heptachloro-3a,4,7,7a-tetrahydro-
P199	2032-65-7	Methiocarb.
P066	16752-77-5	Methomyl
P068	60-34-4	Methyl hydrazine
P064	624-83-9	Methyl isocyanate
P069	75-86-5	2-Methylactonitrile
P071	298-00-0	Methyl parathion
P190	1129-41-5	Metolcarb.
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) <sub>4</sub> , (T-4)-
P074	557-19-7	Nickel cyanide
P074	557-19-7	Nickel cyanide Ni(CN) <sub>2</sub>
P075	<sup>1</sup> 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 <sub>2</sub>
P081	55-63-0	Nitroglycerine (R)
P082	62-75-9	N-Nitrosodimethylamine
P084	4549-40-0	N-Nitrosomethylvinylamine
P085	152-16-9	Octamethylpyrophosphoramidate
P087	20816-12-0	Osmium oxide OsO <sub>4</sub> , (T-4)-
P087	20816-12-0	Osmium tetroxide
P088	145-73-3	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P194	23135-22-0	Oxamyl.
P089	56-38-2	Parathion
P034	131-89-5	Phenol, 2-cyclohexyl-4,6-dinitro-
P048	51-28-5	Phenol, 2,4-dinitro-
P047	<sup>1</sup> 534-52-1	Phenol, 2-methyl-4,6-dinitro-, & salts
P020	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-

P009	131-74-8	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P128	315-18-4	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester).
P199	2032-65-7	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate
P202	64-00-6	Phenol, 3-(1-methylethyl)-, methyl carbamate.
P201	2631-37-0	Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate.
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
P201	2631-37-0	Promecarb
P070	116-06-3	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime
P203	1646-88-4	Propanal, 2-methyl-2-(methyl-sulfonyl)-, O-[(methylamino)carbonyl] oxime.
P101	107-12-0	Propanenitrile
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	<sup>1</sup> 54-11-5	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & 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	<sup>1</sup> 57-24-9	Strychnidin-10-one, & salts
P018	357-57-3	Strychnidin-10-one, 2,3-dimethoxy-
P108	<sup>1</sup> 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 <sub>2</sub> O <sub>3</sub>
P114	12039-52-0	Thallium(I) selenite
P115	7446-18-6	Thallium(I) sulfate
P109	3689-24-5	Thiodiphosphoric acid, tetraethyl ester
P045	39196-18-4	Thiofanox
P049	541-53-7	Thioimidodicarbonic diamide [(H <sub>2</sub> N)C(S)] <sub>2</sub> NH
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 <sub>2</sub> O <sub>5</sub>
P120	1314-62-1	Vanadium pentoxide
P084	4549-40-0	Vinylamine, N-methyl-N-nitroso-

## U-Listed Wastes

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-
U240	<sup>1</sup> 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-trichlorophenoxy)-
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-(1aalpha, 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
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-dichloroethylidene)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)
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	<sup>1</sup> 81-07-2	1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts
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-,
U203	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-
U141	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-
U367	1563-38-8	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-
U090	94-58-6	1,3-Benzodioxole, 5-propyl-
U064	189-55-9	Benzo[ <i>rst</i> ]pentaphene
U248	<sup>1</sup> 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[ <i>a</i> ]pyrene
U197	106-51-4	<i>p</i> -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
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
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.
U238	51-79-6	Carbamic acid, ethyl ester
U178	615-53-2	Carbamic acid, methylnitroso-, ethyl ester
U373	122-42-9	Carbamic acid, phenyl-, 1-methylethyl ester.
U409	23564-05-8	Carbamic acid, [1,2-phenylenebis(iminocarbonothioyl)]bis-, dimethyl ester.
U097	79-44-7	Carbamic chloride, dimethyl-
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.
U114	<sup>1</sup> 111-54-6	Carbamodithioic acid, 1,2-ethanediybis-, salts & esters
U062	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-

		propenyl) 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	Chlornaphazin
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 <sub>2</sub> CrO <sub>4</sub> , 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-hexachloro-, (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	<sup>1</sup> 94-75-7	2,4-D, salts & 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)
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)
U108	123-91-1	1,4-Diethyleneoxide
U028	117-81-7	Diethylhexyl phthalate
U395	5952-26-1	Diethylene glycol, dicarbamate.
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-Dimethylbenzylhydroperoxide (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)
U111	621-64-7	Di-n-propylnitrosamine
U041	106-89-8	Epichlorohydrin
U001	75-07-0	Ethanal (I)
U404	121-44-8	Ethanamine, N,N-diethyl-
U174	55-18-5	Ethanamine, N-ethyl-N-nitroso-
U155	91-80-5	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-
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	Ethanimidothioic 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-
U395	5952-26-1	Ethanol, 2,2'-oxybis-, dicarbamate.
U004	98-86-2	Ethanone, 1-phenyl-
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)
U117	60-29-7	Ethyl ether (I)
U114	<sup>1</sup> 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-[[[(methylnitrosoamino)- 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)
U134	7664-39-3	Hydrogen fluoride (C,T)
U135	7783-06-4	Hydrogen sulfide
U135	7783-06-4	Hydrogen sulfide H <sub>2</sub> S
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-
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-hydroxy]-, tetrasodium salt
U279	63-25-2	1-Naphthalenol, methylcarbamate.
U166	130-15-4	1,4-Naphthoquinone
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-
U039	59-50-7	Phenol, 4-chloro-3-methyl-
U081	120-83-2	Phenol, 2,4-dichloro-
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-
U411	114-26-1	Phenol, 2-(1-methylethoxy)-, methylcarbamate.
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	Phosphorus 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-trichlorophenoxy)-
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)
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.
U387	52888-80-9	Prosulfocarb.
U194	107-10-8	n-Propylamine (I,T)
U083	78-87-5	Propylene dichloride
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	<sup>1</sup> 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 <sub>2</sub> (R,T)
U015	115-02-6	L-Serine, diazoacetate (ester)
See F027	93-72-1	Silvex (2,4,5-TP)

U206	18883-66-4	Streptozotocin
U103	77-78-1	Sulfuric acid, dimethyl ester
U189	1314-80-3	Sulfur phosphide (R)
See F027	93-76-5	2,4,5-T
U207	95-94-3	1,2,4,5-Tetrachlorobenzene
U208	630-20-6	1,1,1,2-Tetrachloroethane
U209	79-34-5	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
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 <sub>2</sub> N)C(S)] <sub>2</sub> S <sub>2</sub> , 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
U226	71-55-6	1,1,1-Trichloroethane
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	759-73-9	Urea, N-ethyl-N-nitroso-
U177	684-93-5	Urea, N-methyl-N-nitroso-
U043	75-01-4	Vinyl chloride
U248	<sup>1</sup> 81-81-2	Warfarin, & salts, when present at concentrations of 0.3% or less
U239	1330-20-7	Xylene (I)
U200	50-55-5	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha,18beta,20alpha)-
U249	1314-84-7	Zinc phosphide Zn <sub>3</sub> P <sub>2</sub> , when present at concentrations of 10% or less

## F-Listed Wastes

Industry and EPA hazardous waste No.	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	(T)

	spent solvents and spent solvent mixtures	
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; 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	(I,T)
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum	(T)
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)

F012	Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process	(T)
F019	Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process	(T)
F020	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol.)	(H)
F021	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives	(H)
F022	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions	(H)
F023	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of Hexachlorophene from highly purified 2,4,5-trichlorophenol.)	(H)
F024	Process wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor clean-out wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. (This listing does not include wastewaters, wastewater treatment sludges, spent catalysts, and wastes listed in §261.31 or §261.32.)	(T)
F025	Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having	(T)

	carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution	
F026	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions	(H)
F027	Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing Hexachlorophene synthesized from prepurified 2,4,5-trichlorophenol as the sole component.)	(H)
F028	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027	(T)
F032	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with §261.35 of this chapter or potentially cross-contaminated wastes that are otherwise currently regulated as hazardous wastes (i.e., F034 or F035), and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol	(T)
F034	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol	(T)
F035	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol	(T)

F037	<p>Petroleum refinery primary oil/water/solids separation sludge—Any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of process wastewaters and oil cooling wastewaters from petroleum refineries. Such sludges include, but are not limited to, those generated in oil/water/solids separators; tanks and impoundments; ditches and other conveyances; sumps; and stormwater units receiving dry weather flow. Sludge generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in §261.31(b)(2) (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing. This listing does include residuals generated from processing or recycling oil-bearing hazardous secondary materials excluded under §261.4(a)(12)(i), if those residuals are to be disposed of.</p>	(T)
F038	<p>Petroleum refinery secondary (emulsified) oil/water/solids separation sludge—Any sludge and/or float generated from the physical and/or chemical separation of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries. Such wastes include, but are not limited to, all sludges and floats generated in: induced air flotation (IAF) units, tanks and impoundments, and all sludges generated in DAF units. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment units as defined in §261.31(b)(2) (including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and F037, K048, and K051 wastes are not included in this listing</p>	(T)
F039	<p>Leachate (liquids that have percolated through land disposed wastes) resulting from the disposal of more than one restricted waste classified as hazardous under subpart D of this part. (Leachate resulting from the disposal of one or more of the following EPA Hazardous Wastes and no other Hazardous Wastes retains its EPA Hazardous Waste Number(s): F020, F021, F022, F026, F027, and/or F028.)</p>	(T)

\*(I,T) should be used to specify mixtures that are ignitable and contain toxic constituents.



NCF Hazardous Waste ID Label  
HAZARDOUS WASTE

**HAZARDOUS WASTE**  
**NEW COLLEGE OF FLORIDA**  
**EPA ID# FLD 982 142 499**

CHEMICAL COMPOSITION: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

LABELED BY: \_\_\_\_\_ SAA START DATE: \_\_\_\_\_

DEPARTMENT: \_\_\_\_\_

BUILDING/ROOM: \_\_\_\_\_

PHONE: \_\_\_\_\_ STORAGE DATE: \_\_\_\_\_

HAZARD CLASS		
<input type="checkbox"/> Flammable	<input type="checkbox"/> Reactive	<input type="checkbox"/> Other _____
<input type="checkbox"/> Oxidizer	<input type="checkbox"/> Corrosive	_____
<input type="checkbox"/> Toxic	<input type="checkbox"/> Non-Hazardous	_____

Environmental Health and Safety

(941) 487-4585

**Department of Environmental Protection**  
A Guide on Hazardous Waste Management



# Department of Environmental Protection

## A Guide on Hazardous Waste Management

### SMALL QUANTITY GENERATORS

#### INTRODUCTION

Many businesses, both large and small use hazardous materials in their processes. Many of these processes produce wastes. A portion of these wastes may be hazardous. The method a business manager employs to manage hazardous waste will have a direct influence on business profits and future liabilities for the property, the business, and its owners.

The purpose of this paper is to provide basic information to industry and public agencies that may be generators of small quantities of hazardous waste and to inform them of their responsibilities for proper hazardous waste management.

#### RESOURCE CONSERVATION AND RECOVERY ACT

The Resource Conservation and Recovery Act (RCRA) was enacted by Congress in 1976 to protect public health and the environment from improper management of hazardous waste. RCRA was primarily written to regulate hazardous waste managed by the larger generator. Since the initial enactment, RCRA has been amended to regulate the previously exempted small quantity generator. The State of Florida has adopted by reference the federal regulations governing the small quantity generator.

#### HOW CAN I DETERMINE IF I HAVE HAZARDOUS WASTE?

*All generators of waste materials* are required by law to identify and evaluate their waste. Evaluating waste streams means determining whether or not the waste is hazardous. Evaluate each waste you produce using Step 1 below to determine whether you are a generator.

##### Step 1: Evaluate Your Waste

First, inventory and assemble information about your waste. An inventory consists of identifying all wastes that your business discards including sewered and recycled waste, unusable products, and by-products.

Material Safety Data Sheets (MSDSs) for your raw materials can be used to help identify your waste. Your Trade Association may be a good source of information. They can provide assistance for evaluating your wastes as well as assistance in handling, packaging and labeling your waste. If you have no information about your waste, it may be necessary to have the waste analyzed by a laboratory.

To determine whether your waste is hazardous, answer the following questions for each waste on your inventory.

1. Is the waste exempt from regulation? (i.e., recycled used oil, lead acid batteries that are reclaimed, domestic sewage, permitted industrial discharges, see **Table 1**)
2. Is the waste listed as a hazardous waste? (i.e., spent halogenated and certain non-halogenated solvents, see **Table 2**)
3. Is the waste hazardous because it exhibits a hazardous characteristic? (ignitable, corrosive, reactive, toxic, see **Table 3**)

**Call DEP for a list of EPA Hazardous Waste codes for waste streams commonly generated**

If your waste is not exempt and you answered yes to questions 2 or 3 for any waste produced then your business is a generator of hazardous waste.

### **Step 2: Determine Generator Size**

The amount of all hazardous waste generated or accumulated at your business will determine which category you fit in (see Table 4). Each category has its own requirements for waste management. If you generate between 100 kg and 1,000 kg (220-2,200 lbs.) in any one month of hazardous waste and no more than 1kg (2.2 lbs.) of acutely hazardous waste in any one month, you are a regulated small quantity generator and the RCRA hazardous waste regulations require you to:

**The Following Steps Apply to 100-1,000 Kg/month Small Quantity Generators**

### **Step 3: Obtain an EPA Identification Number**

As a small quantity generator, you are required to obtain an EPA/DEP identification number by completing and submitting EPA Form 8700-12, Notification of Waste Activity. These forms can be obtained from DEP Tallahassee office or from any of the DEP district offices. The EPA/DEP I.D. number is site specific, so if you move to a new location you must get a new EPA/DEP I.D. number.

### **Step 4: Place Waste in a Labeled, Leak Proof Container**

This label must include:

1. The words "Hazardous Waste- Federal Law Prohibits Improper Disposal. If found contact the nearest police or public safety authority or the US Environmental Protection Agency;
2. Generators name and address;
3. Manifest Document number;
4. The container should also include
  - Description of the waste
  - The date the waste was first put into the container (accumulation start date).

In addition, you must follow DOT labeling requirements when you ship your container off-site. Your transporter should be familiar with these requirements, otherwise, call the Florida Department of Transportation, Hazardous Materials Compliance Officer at 850-245-7900.

### **Step 5: Store Waste Properly; Accumulate Up To the Limits**

General requirements for handling storage containers:

1. They must be in good condition.
2. Replace leaking containers.
3. Keep containers closed.
4. The containers must be compatible with the hazardous waste stored in them, and must meet DOT standards.
5. Do not mix wastes.
6. Provide adequate aisle space for easy access and visibility.
7. Containers must be inspected at least weekly to check for leaks and signs of corrosion.

As a small quantity generator, you are allowed to store on-site up to 6,000 kg (13,200 lb.) of hazardous waste for a period of 180 days.

### **Step 6: Transport and Dispose of Waste Properly**

A generator is forever responsible for his or her hazardous waste. To reduce your liability and to ensure the waste is transported and properly disposed, choose a transporter that has met the following requirements:

- 1 Obtained an EPA/DEP I.D. number;
- 2 Use manifests;
- 3 Ability to clean up hazardous waste discharges during transportation-related incidents;
- 4 Documentation of financial liability.

Transporters storing more than 24 hours at a transfer facility must notify the DEP and meet many TSD requirements, including containment, contingency plan, training, security and closure.

### **Step 7: Manifests and Transport of Hazardous Waste**

The Uniform Hazardous Waste Manifest is a multi-copy shipping document that must accompany hazardous waste shipments. The State of Florida requires the use of this manifest when disposing of hazardous waste.

### **Step 8: Emergency Procedures Plan**

- 1 Designate an emergency coordinator;
- 2 Post emergency information by the phone; and,
- 3 Provide and document adequate training for personnel handling hazardous waste.

### **Step 9: Preparedness and Prevention Plan**

If you accumulate hazardous waste on-site, you are required to prepare a Preparedness and Prevention Plan.

- 1 Maintain a safe work place;
- 2 Accessible telephones;
- 3 Maintain fire extinguishers and spill control equipment;
- 4 Maintain aisle space in work area;
- 5 Notify police, fire department, and state emergency response teams of the types of wastes handled at your facility.

### **Step 10: Keep Records**

Maintain these records for a minimum of three years:

- 1 Manifests;
- 2 Land Disposal Restriction (LDR) Forms;
- 3 Manifest exception reports;
- 4 Analytical and other reports;
- 5 Training documents;
- 6 Inspection logs; and,
- 7 Correspondence.

For additional information on the Small Quantity Generator requirements call or write for:

**FLORIDA'S HANDBOOK FOR SMALL QUANTITY GENERATORS OF HAZARDOUS WASTE**

**January 26, 2007**

Florida Department of Environmental Protection  
Hazardous Waste Management Section, MS4555  
2600 Blair Stone Road Tallahassee, Florida  
32399-2400 Phone: (850) 245-8707  
[www.dep.state.fl.us](http://www.dep.state.fl.us)

# EPA Hazardous Waste Tables

**TABLE 1: EXEMPT WASTE**

- Domestic sewage;
- Irrigation waters or industrial discharges permitted under the Federal Water Pollution Control Act;
- Certain nuclear material as defined by the Atomic Energy Act;
- Household wastes, including hazardous waste;
- Certain mining wastes;
- Agricultural wastes, excluding some pesticides;
- Used oil filters that have been properly drained and recycled;
- Recycled used oil and lead acid batteries that are reclaimed;
- Universal Wastes (hazardous waste batteries, pesticides and mercury thermostats) managed under 40 CFR, Part 273;
- Mercury containing lamps and devices destined for recycling (Chapter 62-737, F.A.C.)

**TABLE 2: LISTED WASTE EXAMPLES**

Hazardous wastes from non-specific sources:

- **F001:** spent halogenated solvents used in degreasing such as trichloroethylene, methylene chloride, 1,1,1-trichloroethane, and carbon tetrachloride;
- **F002:** spent halogenated solvents such as those above but not used as degreasers; other examples are 1,1,2-trichloro-1,2,2-trifluoroethane and chlorobenzene;
- **F003:** spent nonhalogenated, ignitable-only solvents such as xylene, acetone, methanol, and methyl isobutyl ketone;
- **F004:** spent nonhalogenated solvents such as cresols, cresylic acid, and nitrobenzene;
- **F005:** spent nonhalogenated solvents such as toluene, methyl ethyl ketone, carbon disulfide, and benzene; Spent solvent mixtures/blends containing 10% before use of F001, F002, F004 and/or F005; and, distillation bottoms from recovering solvents;

Hazardous waste from specific sources such as certain plating bath solutions; wastewater treatment sludge; and, wastes from the heat treatment of metals (see K-list);

Discarded commercial chemical products, off-specification products, containers and/or spill residues (see P- and U-lists).

**TABLE 3: CHARACTERISTIC WASTES**

- **Ignitability-D001:** a liquid waste having an alcohol content greater than or equal to 24% or has a flash point of less than 140° F. Examples are solvents and paint thinners;
- **Oxidizer-D001:** wastes that add oxygen to a fire. Oxidizing substances often have “per” as the beginning of the name, “oxide” as the ending of the name, or “ate” in its chemical name. Examples are ammonium nitrate, perchlorates, and peroxides;
- **Corrosivity-D002:** a liquid waste material having a pH of less than 2.0 or greater than 12.5. Examples are acids and caustics;
- **Reactivity-D003:** waste materials that react to water, shock, heat, and pressure, and undergoes a rapid or violent chemical reaction. Some examples are explosives and cyanides wastes;
- **Toxicity-D004-D043:** waste which release toxic metals, pesticides or volatile organic chemicals above certain limits under acidic conditions. Includes 8 heavy metals and 31 organic chemicals including 10 pesticides. Wastes in this category need only contain small amounts of mercury, arsenic, lead, or one of the other heavy metals, or organics such as benzene, trichloroethylene, perchloroethylene, methyl ethyl ketone, or one of the ten pesticides.

#### **TABLE 4: GENERATOR SIZE**

##### **1. CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR**

- less than 100 kilograms<sup>1</sup> in any one month (about ½ a 55-gallon drum<sup>2</sup>) of hazardous waste, or
- you generate less than 1 kilogram of an acute hazardous waste (see P-list<sup>3</sup>), and
- you never accumulate more than 1,000 kilograms (2,200 lb.) of hazardous waste at any time.

##### **2. SMALL QUANTITY GENERATOR**

- more than 100 kilograms but less than 1,000 kilograms in any one month (about ½ to 5 -55 gallon drums) of hazardous waste.
- ship stored waste within 180 days after the waste was first put into the container, and
- you never accumulate more than 6,000 kg (13,200 lb.).

##### **3. LARGE QUANTITY GENERATOR**

- more than 1,000 kilograms in any one month (about 5 -55 gallon drums) of hazardous waste, or
- you generate 1 kilogram or more of an acute hazardous waste in any one month, and ship stored waste within 90 days after the waste was first put into the container unless storage facility permit is obtained.

<sup>1</sup> 1 kilogram = 2.2 pounds <sup>2</sup> These volumes are based on the weight of water (8 lb./gallon) and are only provided for the purpose of estimating generator status. Heavier wastes like metal sludges (20 lb./gallon) and chlorinated solvents such as perchloroethylene, freon and trichloroethylene (12-13.5 lb./gallon) will need to be evaluated based on their actual weight per gallon. <sup>3</sup> Contact the DEP for hazardous waste lists.





RGN	Reactivity group	Incompatible with
1	Acids, Mineral, Non-Oxidizing	<a href="#">4-15,17-26,28,30-34,101-107</a>
2	Acids, Mineral, Oxidizing	<a href="#">3-34,101-103,105-107</a>
3	Acids, Organic	<a href="#">2,4,5,7,8,10-12,15,18,21,22,24-26,33,34,102-105,107</a>
4	Alcohols and Glycols	<a href="#">1-3,8,18,21,25,30,34,104,105,107</a>
5	Aldehydes	<a href="#">1-3,7,8,10,12,21,25,27,28,30,33,34,104,105,107</a>
6	Amides	<a href="#">1,2,21,24,104,105,107</a>
7	Amines, Aliphatic and Aromatic	<a href="#">1-3,5,12,17,18,21,24,30,34,104,105,107</a>
8	Azo Compounds, Diazo Compounds and Hydrazines	<a href="#">1-5,9,11-13,17-23,25,30-34,102-104,106,107</a>
9	Carbamates	<a href="#">1,2,8,10,21,22,25,30,104,107</a>
10	Caustics	<a href="#">1-3,5,9,13,17-19,21,22,24-27,32,34,102,103,107</a>
11	Cyanides	<a href="#">1-3,8,17-19,21,25,30,34,103-105,107</a>
12	Dithiocarbamates	<a href="#">1-3,5,7,8,18,21,25,30,34,103-105,107</a>
13	Esters	<a href="#">1,2,8,10,21,25,102,104,107</a>
14	Ethers	<a href="#">1,2,104,107</a>
15	Fluorides, Inorganic	<a href="#">1-3,107</a>
16	Hydrocarbons, Aromatic	<a href="#">2,104,105,107</a>
17	Halogenated Organics	<a href="#">1,2,7,8,10,11,20-23,25,30,104,105,107</a>
18	Isocyanates	<a href="#">1-4,7,8,10-12,20-22,25,30,31,33,104-107</a>
19	Ketones	<a href="#">1,2,8,10,11,20,21,25,30,104,105,107</a>
20	Mercaptans and Other Organic Sulfides	<a href="#">1,2,8,17-19,21,22,25,30,34,104,105,107</a>
21	Metals, Alkali and Alkaline Earth Elemental	<a href="#">1-13,17-20,25-27,30-32,34,101-104,106,107</a>
22	Metals, Other Elemental and Alloys as Powders,	<a href="#">1-3,8-10,17,18,20,28,30,34,102-104,106,107</a>

	<b>Vapors or Sponges</b>	
23	<b>Metals, Other Elemental and Alloys as Sheets, Rods, Drops, Moldings</b>	<a href="#"><u>1,2,8,17,102-104,107</u></a>
24	<b>Metal and Metal Compounds, Toxic</b>	<a href="#"><u>1-3,6,7,10,26,30,34,102,103,106,107</u></a>
25	<b>Nitrides</b>	<a href="#"><u>1-5,8-13,17-21,26-27,30,31,34,101-104,106,107</u></a>
26	<b>Nitrites</b>	<a href="#"><u>1-3,10,21,24,25,30,104,105,107</u></a>
27	<b>Nitro Compounds, Organic</b>	<a href="#"><u>2,5,10,21,25,104,105,107</u></a>
28	<b>Hydrocarbons, Aliphatic, Unsaturated</b>	<a href="#"><u>1,2,5,22,30,104,107</u></a>
29	<b>Hydrocarbons, Aliphatic, Saturated</b>	<a href="#"><u>2,104,107</u></a>
30	<b>Peroxides and Hydroperoxides, Organic</b>	<a href="#"><u>1,2,4,5,7-9,11,12,17-22,24-26,28,31-34,101-105,107</u></a>
31	<b>Phenols and Cresols</b>	<a href="#"><u>1,2,8,18,21,25,30,34,102-105,107</u></a>
32	<b>Organophosphates, Phosphothioates, Phosphodithioates</b>	<a href="#"><u>1,2,8,10,21,30,34,104,105,107</u></a>
33	<b>Sulfides, Inorganic</b>	<a href="#"><u>1-3,5,8,18,30,34,102-104,106,107</u></a>
34	<b>Epoxides</b>	<a href="#"><u>1-5,7,8,10-12,20-22,24,25,30-33,102,104,105,107</u></a>
101	<b>Combustible and Flammable Materials, Misc.</b>	<a href="#"><u>1,2,21,25,30,102,104,105,107</u></a>
102	<b>Explosives</b>	<a href="#"><u>1-3,8,10,13,21-25,30,31,33,34,101,105-105,107</u></a>
103	<b>Polymerizable Compounds</b>	<a href="#"><u>1-3,8,10-12,21-25,30,31,33,102,104,105,107</u></a>
104	<b>Oxidizing Agents, Strong</b>	<a href="#"><u>1,3-9,11-14,16-23,25-34,101-103,105,107</u></a>
105	<b>Reducing Agents, Strong</b>	<a href="#"><u>1-8,12,13,17-20,26,27,30,31,32,34,101-104,106,107</u></a>
106	<b>Water and Mixtures Containing Water</b>	<a href="#"><u>1,2,8,18,21,22,24,25,33,105,107</u></a>
107	<b>Water Reactive Substances</b>	<a href="#"><u>ALL!</u></a>

<b>Chemical Group</b>	<b>Incompatible With:</b>
Flammable solvents (xylene, toluene, benzene, ethyl benzene, etc)	Caustics, acids (with the exception of acetic acid which should be stored along with flammables), oxidizers
Inorganic acids, non-oxidizing (sulfuric, hydrochloric, phosphoric acids, etc.)	Caustics, flammables, cyanides, sulfides, most halogenated and non-halogenated organics, reducing compounds, peroxides
Inorganic acids, oxidizing (nitric, chromic acids, etc.)	Organic acids, flammables, caustics, cyanides, sulfides, most halogenated and non-halogenated organics, reducing compounds, peroxides
Organic acids (formic acid, etc.)	Inorganic acids (oxidizing), flammables, cyanides, sulfides, caustics, most non-halogenated and halogenated organics
Oxidizers (sodium nitrate, potassium nitrate, etc.)	Organics, inorganic acids, organic acids, reducers
Water reactives (sodium metal, lithium, etc)	Water, should be stored separate from all other chemicals
Cyanide and sulfide compounds	Inorganic and organic acids
Ammonia	Bleach, acids, organics
Halogenated solvents (chloroform, carbon tetrachloride, trichloroethylene, etc.)	Acids, caustics, oxidizers

# **SECTION VIII**

## **Special Requirements for Construction Contractors**

# Summary of PROCEDURES TO IDENTIFY AND MANAGE ENVIRONMENTAL ISSUES DURING DEMOLITION, RENOVATION, AND NEW CONSTRUCTION PROJECTS AT NEW COLLEGE OF FLORIDA

The Florida Department of Environmental Protection (DEP) has determined that regulated small and large quantity generators of hazardous waste are responsible for all hazardous wastes generated on their sites. Therefore, contractors working on the campus must comply with the same federal and state regulations pertaining to hazardous waste management and disposal as the College.

**All contractors, sub-contractors, and their employees, intending to bid on projects and do work for the New College of Florida, must comply with these procedures as summarized. A complete copy of the procedures may be obtained by contacting one of the Departments listed at the end of this summary. Violations of State and Federal regulations could result in fines or civil and criminal action against the Contractor or the College. The following guidelines have been developed to assist the Contractor and the College in meeting the requirements of the state and federal regulatory agencies.**

1. Prior to commencement of all demolition and renovation projects, the contractor shall receive a site inspection report from the Office of Environmental Health and Safety (EH&S), A/E, Environmental Consultant, or Project Manager identifying any potential building components of an environmental concern *within the scope of the renovation or demolition only*.
2. Prior to contracting for work, each contractor, subcontractor, and their employees, *who use hazardous materials and may generate a hazardous waste*, must provide evidence of having received RCRA Hazardous Waste Awareness Training, **and annual refresher training**, as required by 40 CFR 265.16 and 262.34.
3. Contractors and subcontractors shall identify all hazardous materials and maintain Material Safety Data Sheets (MSDS) for each product **on site** as required by the OSHA Hazard Communication Standard.
4. Contractors shall be responsible for estimating the type and quantity of hazardous waste that will be generated by all contractor employees and sub-contractors prior to start of a project.
5. The General Contractor shall be responsible for the proper identification, and management of all hazardous wastes within the scope of a given project. Specifically, contractors must identify a secure waste accumulation area, store waste in appropriate containers, identify the contents of the containers including the words HAZARDOUS WASTE, and inspect the containers on a weekly basis. The inspection must be documented.
6. The Contractor shall turn all properly identified hazardous waste over to the College, Office of Environmental Health and Safety, at the end of the project or other agreed upon time. Any other arrangements shall have prior written approval from the Office of Environmental Health and Safety and the Office of Facilities Planning.
7. ***HAZARDOUS WASTE shall not be removed from the campus by contractors or sub-contractors, unless prior arrangements have been made with the College and the waste is properly manifested and transported by a licensed hazardous waste transporter.***

8. The Office of Environmental Health and Safety will verify the identification of the waste. If the identification is unacceptable, EH&S will not accept the waste and the contractor shall bear the cost of laboratory analysis for adequate identification.
9. All hazardous waste will be shipped off site using the College's hazardous waste contractor, under a manifest bearing the USEPA ID# of the New College of Florida, and signed by a College EH&S representative, unless prior arraignments have been made and approved in writing by NCF Office of EH&S and Facilities Planning.
10. All hazardous waste turned over to the College shall be contained in appropriate, compatible, and closed, containers for the type and volume of waste generated. Containers may include DOT approved 55 or 30 gallon open-head or closed-head drums, 5 gallon pails or cans, etc., or possibly the original container. The contractor shall be responsible for providing the appropriate container for all types of hazardous waste generated.
11. Paint brushes, rollers, rags, sludges, absorbent, etc. used with oil paints or solvents, and that are waste materials shall be placed in 5 gallon sealable buckets, or other appropriate size containers.
12. In no cases shall evaporation be used to dry solvent laden materials destined for disposal. Evaporation of waste solvents is considered illegal disposal of hazardous waste.
13. All hazardous waste must be stored in a secured, locked, and safe location. Incompatible waste (acids/bases/flammables) must be stored in physically separate locations. Hazardous waste storage locations shall be coordinated and approved by EH&S.
14. All hazardous waste containers must be closed at all times except when adding waste.
15. Fluorescent bulbs and ballasts shall be removed from all lighting fixtures prior to disposal.
  - a. Fluorescent bulbs shall be placed in appropriate size tube cartons from original cartons or available from bulb recycling facilities. Do not break bulbs. Do not tape bulbs. Broken bulbs must be placed in sealed containers and handled separately. Each box must be labeled in accordance with FAC 62-737 and dated.
  - b. Ballasts shall be separated into PCB and non-PCB categories and placed into separate 55 gallon (or appropriate smaller size) open-head steel DOT drum. Each drum must be labeled with appropriate labels: "PCB Ballasts for Recycling" or "Non-PCB Ballasts for Recycling".
  - c. The Contractor shall be charged by the College for all hazardous waste based on the current contract rates with the College's Hazardous Waste Contractor.

If you have questions concerning this information, please contact one of the following:

Mr. Ron Hambrick, Director of Environmental Health and Safety- 941-487-4585

Mr. Dave Houghton, Coordinator of Facilities Planning – 941-487-4690

Mr. Alan Burr, Director of Facilities Construction – 941-487-4245

## **EXAMPLES OF TRADES THAT MAY GENERATE HAZARDOUS WASTES**

Demolition Contractors  
Roofing Contractors  
Painting Contractors  
Carpet/Floor Finish Applications  
Specialty Application Contractors  
Plumbers

## **EXAMPLES OF HAZARDOUS WASTE THAT MAY BE GENERATED**

Florescent and HID Light Tubes  
PCB/non-PCB Ballasts  
Lead-containing Paint  
Mercury Containing devices (thermostats & Controls)  
Mineral Spirits  
Toluene  
Acetone  
Oil based paints and stains  
Paint Thinners  
Aerosol cans (paints, cleaners, adhesives)  
Roof Patch/tar  
Carpet glue  
PVC Primer and glue  
Brushes, rollers, and rags used with oil based paint and solvents  
Sludge from cleaning oil paints and equipment  
Waste product from any container labeled flammable or combustible or that contain "petroleum distillates" or chlorinated hydrocarbon compounds.

### **HAZARDOUS WASTE DISPOSAL COSTS for Contractor Generated Hazardous Wastes**

General contractors will be invoiced for hazardous waste generated by construction activities, including activities by sub-contractors, on their projects. All costs will be based on the College's most current contract prices with our licensed hazardous waste transporter and -TSD facility. Actual costs will be determined by packing methods after other "compatible" materials are included.