



TEXAS A&M UNIVERSITY  
CORPUS CHRISTI

# Hazardous Waste Management Program

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*Compiled by:  
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Customer reference number: **CN 601422033**  
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## **I. INTRODUCTION**

The purpose of this document is to inform the faculty, staff, and students of Texas A&M University - Corpus Christi (TAMU-CC) regarding State and Federal regulations on hazardous waste disposal and to define the TAMU-CC Hazardous Waste Management Program. The Program pertains to hazardous waste and does not include procedures for the management of radioactive, infectious, and/or biological waste.

## **II. HAZARDOUS WASTE DISPOSAL REGULATIONS**

Federal and State regulations govern hazardous waste disposal at TAMU-CC, failure to comply with any hazardous waste regulation may result in substantial fines and penalties for the University. Individuals causing the violation may be personally liable. Violations may range from failure to properly label a container of hazardous waste to intentionally disposing of hazardous waste into the air, down the drain, or in the garbage. A waste generator never totally loses liability for environmental damage. In Texas, penalties for non-compliance may be civil, criminal, or administrative violations with penalties ranging from fines, up to \$25,000 per day, to prison terms for individuals, up to 15 years.

The Resource Conservation and Recovery Act (RCRA) is administered by the U. S. Environmental Protection Agency (EPA). Under this Act, the EPA has the responsibility for regulating hazardous wastes. RCRA established a "cradle to grave" hazardous waste management requirement to protect public health and the environment from improper disposal of hazardous waste. This law went into effect in 1976.

The Texas Commission on Environmental Quality (TCEQ) administers an equivalent to RCRA for the State of Texas under the Industrial Solid Waste and Municipal Hazardous Waste Regulations (Title 30, Part I, Chapter 335).

The TAMU-CC Environmental, Health and Safety Department (EHS) administers the Hazardous Waste Management Program at TAMU-CC. Compliance with the program is critical and requires full cooperation by all campus entities.

TAMU-CC operates as a Small-Quantity Generator (SQG) of hazardous waste and must comply with the State and Federal regulations on waste disposal associated with that classification. The Texas Commission on Environmental Quality (TCEQ) and the Environmental Protection Agency (EPA) inspect the TAMU-CC's Hazardous Waste Management Program for compliance. The University's permit is applicable to all activities at TAMU-CC that produce waste.

## II. HAZARDOUS WASTE DISPOSAL REGULATIONS (cont.)

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TAMU-CC is not permitted to treat or dispose of waste locally. All waste must be transported to a permitted off-site Treatment, Storage, and Disposal Facility (TSDF) for further storage, treatment, and/or disposal or recycling. It is illegal to dispose of hazardous waste by dilution, evaporation, or dumping into the sanitary or storm sewers or into the local landfill.

The Texas A&M University System has contracted a TSDF and waste hauler to perform the final waste pick up, transport, and disposal.

EHS personnel collects, transports on campus, and stores hazardous waste prior to off-site shipment for final disposal. In addition, EHS provides technical support to individuals and maintains permanent records of all hazardous wastes collected on campus and shipped off-campus.

## III. HAZARDOUS WASTE MANAGEMENT PROGRAM

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The following procedures are intended to comply with applicable Federal and State regulations for the proper management of hazardous waste and to reduce adverse effects to human health and the environment.

### **Determination of Hazardous waste**

A material becomes "waste" when there is no longer a useful need and should be discarded. If the material is to be discarded, determine whether the waste is non-hazardous or hazardous. A material is "non-hazardous waste" if it does not meet the definition of "hazardous waste". The term "hazardous waste" refers to a discarded, spent, or used chemical or material that is, either listed as a hazardous waste or has the characteristics of hazardous waste.

A material is "hazardous waste" if it meets one or more of the following:

1. It is a chemical listed on one of the Chemical Tables (Appendix B).
2. It is a mixture or solution containing a listed chemical (Appendix B) and a non-hazardous material.
3. It meets the definition from any of the following:
  - Ignitability (flashpoint <60°C or supports combustion)
  - Reactivity (e.g., responds violently to air or water, cyanides, explosives, unstable chemicals)
  - Corrosivity (pH <4 or >10)
  - Toxicity (e.g., pesticides, heavy metals, poisons)
  - Universal Waste
  - Materials that are not excluded or exempt from regulation.

EHS will assist in determining and managing hazardous wastes. Additional information on specific responsibilities and procedures may be obtained by contacting the EHS Department.

### III. HAZARDOUS WASTE MANAGEMENT PROGRAM (cont.)

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Personnel can ensure compliance with Hazardous Waste Management by following a few simple steps:

1. *Never* dispose of chemicals improperly.
  - Improper disposal includes, but is not limited to:
    - i. Pouring chemicals down a drain or on the ground.
    - ii. Evaporate the chemical into the air.
    - iii. Dispose of chemicals with the trash.
2. Use leak proof containers, in good condition, can be closed securely, and is an appropriate material for the chemical.

#### **HAZARDOUS WASTE LABELS AND INVENTORY**

All containers of hazardous waste must be properly labeled, inventoried, and stored before being removed from the work area.

Labels must be filled out using the following the guidelines:

- The Words “**Hazardous Waste**”
- **Full chemical names** or common names.  
Chemical formulas or abbreviations are not acceptable.
- List all materials in the container, including water.
- Indicate the percent concentration of each compound, if known.
- Indicate the hazard of the waste in the container

All information listed on a Hazardous Waste label must also be included on an inventory. The Hazardous Waste Inventory must include enough detailed information to distinguish individual containers, or groups of containers. The waste inventory should also state the location the waste is being stored.

**NOTE:** If waste is placed in secondary containment that can be closed, the containment must also be label with the words ‘Hazardous Waste’ and an inventory of the containers of hazardous waste inside. For more information, contact EHS.

Requests for removal of Hazardous Waste must be submitted to EHS. After the inventory is received, EHS will schedule collection of the waste.

**IMPORTANT:** Hazardous Waste that is not properly labeled or inventoried will not be moved.

### III. HAZARDOUS WASTE MANAGEMENT PROGRAM (cont.)

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#### **HAZARDOUS WASTE COLLECTION**

1. When reusing a chemical container to collect hazardous waste, completely deface or remove the original label.
2. Labels can be attached on or affixed to the container and correlate to an inventory. *Labels and inventories must be legible.*
3. Do **not** mix incompatible chemicals in a single container. Use separate waste containers for different waste.
4. Do **not** overfill the waste container.
  - a. For liquid hazardous waste:
    - Do not fill past the “shoulders” of the container.
    - Fill closed head cans (5 gallons or less), leaving approximately two inches of space between the liquid level and the top of the container.
    - Fill closed head drums (larger than 5 gallons), leaving approximately four inches of space.
  - b. For solid hazardous waste materials, do not fill beyond the weight capacity of the container, and leave at least two inches head space for closure.
5. Keep waste containers closed. Waste containers should only be open when adding or removing material.

#### **DISPOSING OF EMPTY CHEMICAL CONTAINERS**

Empty chemical containers may be disposed of in the regular trash provided the following EPA requirements are met:

1. Containers must not contain free liquid or solid residue.
  2. Containers must be triple rinsed.
  3. Product labels must be defaced or removed.
  4. Container lids or caps must be removed.
  5. Metal containers and plastic jugs must be rendered unusable by punching holes in the bottom of the containers before disposing of them in the regular trash.
- It is not necessary to break empty glass containers.

**IMPORTANT:** Containers that do not meet the requirements mentioned here must be treated as hazardous waste.

Contact EHS for more information on hazardous waste procedures and regulations as well as information on waste reduction and minimization.

## IV. GENERAL INFORMATION

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1. Non-hazardous waste may be disposed of using the sanitary sewer or regular trash. Additional information about non-hazardous waste disposal can be obtained from EHS.
  2. Written procedures must be included in the laboratory protocols; Hazardous chemicals cannot be treated to reduce the hazard or the quantity of waste in the laboratory.
  3. Gas cylinders should be returned to the manufacturer or distributor whenever possible. Non-returnable cylinders should be labeled as hazardous waste.
  4. Photographic lab waste containing **silver** must be disposed as hazardous waste. However, some new developing equipment includes a filtration system that removes the **silver**. Photographic lab effluent that does not contain silver may be discarded through the sanitary sewer system. **Please notify EHS if you have this type of equipment.**
1. "Mixed Waste" (includes both radioactive material and hazardous chemicals) should be initially routed through the EHS Radiation Safety Officer.
  2. Chemical waste that is "unknown" will be picked up by EHS. Place a waste disposal label on the container using "unknown" for the chemical description. Generators will be charged for the cost of analysis necessary to determine the chemical identity for proper disposal.

### Classification and Segregation of Hazardous Waste

1. Hazardous waste is categorized into the following hazard groups.
  - Halogenated solvents
  - Non-halogenated solvents
  - Acids
  - Bases
  - Heavy metals
  - Poisons
  - Reactive
  - Ignitable
2. Several types of hazardous waste must not to be mixed in the same waste container.
3. Do not combine inorganic heavy metal compounds and organic solvents.
4. Do not combine non-hazardous waste with hazardous waste.
5. Paper or wood materials contaminated with flammable or toxic chemicals must be double bagged in heavy-duty plastic bags and must be treated as hazardous waste.

## **IV. GENERAL INFORMATION (cont.)**

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### **Containment and Storage of Hazardous Waste**

1. Personnel must maintain control and accessibility of waste storage areas.
2. Personnel must ensure hazardous wastes are collected, labeled, and stored to prevent human exposure or environmental release.
3. Incompatible chemicals and materials must be stored separately.
4. Waste containers must be compatible with the chemical contents. Containers must be in good condition with no leaks. All containers must have suitable screw caps or other means of secure closure. Contact EHS for appropriate container types and sizes.
5. Never overfill hazardous waste containers. Expansion and excess weight can lead to spills, explosions, and/or environmental contamination.
  - Containers of solids must not be filled beyond their weight and volume capacity.
  - Jugs and bottles should not be filled above the shoulder of the container.
  - Closed head cans (5 gallons or less) should have at least two inches of headspace between the liquid level and the head of the container.
  - Closed head drums (larger than 5 gallons) should have at least four inches of headspace.
6. Containers must be closed or sealed to prevent leakage. All waste containers must be kept closed except when adding or removing material.
7. In addition to the above, personnel must ensure:
  - The area is secured from "Unauthorized Entry" and emergency contacts are posted.
  - Waste is stored only within the area that it was generated, no transportation to other areas.
  - These areas must be accessible to EHS personnel.
  - Hazardous waste is separated from non-waste chemicals.
  - That less than 55 gallons of non-acute hazardous waste and/or one quart of acutely hazardous waste is being stored in containers.
  - Spill Control Equipment is available.

### **Labels and Labeling**

1. Labels must be placed on the container when the chemical is first added.
2. Waste containers must be labeled with the words "Hazardous Waste", a list of all materials in the container, and an indicator of the material's hazard.



## **IV. GENERAL INFORMATION (cont.)**

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### **Disposal**

1. It is illegal to dispose of hazardous chemicals in any of the following ways:
  - Poured into the sanitary sewer or drain.
  - Evaporation in a fume hood.
  - Placed in the regular trash.
2. Empty containers can be placed with other non-hazardous waste when the following requirements are satisfied. EPA regulations stipulate that an empty chemical container must:
  - not contain free liquid or solid residue,
  - be triple rinsed,
  - have the label removed or defaced,
  - have the lid or cap removed, and
  - have a hole punched in the bottom (metal or plastic containers when placing in a dumpster as non-hazardous waste).

All efforts should be made to reuse empty containers. Empty chemical containers not handled in this manner must be treated as hazardous waste.

## **V. EMERGENCY PROCEDURES**

TAMU-CC Hazard Communication Program requires that TAMU-CC employees be informed of hazardous materials that they might use or be exposed to at work. In addition, the program should include training on handling spills and other emergencies. Safety Data Sheets are a source of this information and should be maintained for all chemicals used or stored within a workplace. Special cleanup supplies should be available, and employees should be trained on how to use these supplies. The TAMU-CC Environmental, Health & Safety Department can provide additional information on handling specific chemical spills and is equipped and trained to assist with hazardous material spills. Contaminated clothing, rags, absorbent materials, or other waste from cleanup of spills or leaks must be properly disposed of. All labs should post emergency numbers to be used and develop a response scenario for emergencies.

### **Emergency telephone numbers of importance are listed below:**

City of Corpus Christi Emergency Dispatch	911
TAMU-CC Police Department	825-4444
TAMU-CC Environmental Health & Safety Office	825-5555
TAMU-CC National Spill Control School	825-3333
University Health Center	825-2601
Facilities Service	825-2324
Poison Control Center	1-800-222-1222

## APPENDIX A

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### **Definitions**

#### *Central Accumulation Area*

Site designated to be used for the storage of hazardous wastes prior to shipment to a permitted treatment, storage, and disposal facilities.

#### *Disposal*

The discharge, deposit, injection, dumping, spilling, or placing of any solid waste or hazardous waste (whether containerized or non-containerized) into or on any land or water so that such solid waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any water, including ground waters.

#### *EPA Identification Number*

The number assigned by the Environmental Protection Agency to each generator, transporter, and processing, storage or disposal facility.

#### *Facility*

Includes all contiguous land, and structures, other appurtenances, and improvements on the land used for storing, processing, or disposing of municipal hazardous waste or industrial solid waste.

#### *Generator*

Any *person*, by site, who produces municipal hazardous waste or industrial solid waste; any person who possesses municipal hazardous waste or industrial solid waste to be shipped to any other person; or any person whose act first causes the solid waste to become subject to regulation. *Person* refers to an individual, trust, firm, corporation, Federal Agency, State, political subdivision of a State, municipality, or any interstate body.

#### *Hazardous Material*

A substance or material, including a hazardous substance, which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated.

#### *Hazardous Waste*

Any solid waste material listed or identified in Title 40 Code of Federal Regulations, Part 261, Subpart C and D or exhibiting the characteristics of ignitability, corrosivity, reactivity, or E.P. toxicity also defined in Part 261. Tables containing the listing and characteristics of hazardous wastes are shown in Appendix B.

*Manifest*

A legal document containing required information, which must accompany shipments of Municipal Hazardous Waste or Class I Industrial Solid Waste transported on public roads or thoroughfares.

*Mixed Waste*

A radioactive waste that is also a hazardous waste.

*Permit*

A written document issued by EPA or TCEQ that, by its conditions, authorizes the construction, installation, modification, or operation of a specified municipal hazardous waste or industrial solid waste storage, processing, or disposal facility in accordance with specified limitations.

*Processing*

The extraction of materials, transfer, volume reduction, conversion to energy, or other separation and preparation of solid waste for reuse or disposal, including the treatment or neutralization of hazardous waste, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or as to recover energy or material from the waste or so as to render such waste non-hazardous or less hazardous; safer to transport, store, and dispose; or amenable for recovery, amenable for storage, or reduced in volume.

*Recyclable Material*

Wastes that are recycled. Recycled material is used, reused, or reclaimed.

*Reclaimed Material*

Is processed or regenerated to recover a usable product.

*Satellite Accumulation Area*

An area, system, or structure used for temporary accumulation of hazardous waste prior to transport to the central accumulation area.

*Solid Waste*

Any garbage, refuse, sludge from a waste treatment plant, water treatment plant, or air pollution control facility or other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, municipal, commercial, mining, and agricultural operations and from community and institutional activities.

*Storage*

The holding of solid waste for a temporary period, at the end of which the waste is processed, disposed of, recycled, or stored elsewhere.

*Texas Solid Waste Number*

The number assigned by the TCEQ to each generator, transporter, and processing, storage, or disposal facility.

### *Transporter*

Any person who conveys or transports municipal hazardous waste or industrial solid waste by truck, ship, pipeline, or other means.

### *Universal Waste*

Any hazardous waste subject to 40 CFR Part 273 and TAC335.261 to include:

- Batteries
- Recalled pesticides
- Mercury containing equipment
  - Mercury containing equipment with evidence of damage or leakage must be managed as hazardous waste.
- Lamps
- Paints and paint-related wastes

### *Use constituting disposal*

Recycling process that involves the direct placement of wastes, or products containing wastes, on the land.

### *Waste*

Any material for which there is no use and is to be discarded as valueless.

## APPENDIX B

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### **Identification of Hazardous Waste**

#### **40 CFR 261.21 Characteristic of ignitability**

- (a) A solid waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties:
- (1) It is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume and has flash point less than 60C (140F), as determined by a Pensky-Martens Closed Cup Tester, using the test method specified in ASTM Standard D-93-79 or D-93-80 (incorporated by reference, see 40 CFR 260.11), or a Setaflash Closed Cup Tester, using the test method specified in ASTM Standard D-3278-78 (incorporated by reference, see 40 CFR 260.11), or as determined by an equivalent test method approved by the Administrator under procedures set forth in 40 CFR 260.20 and 40 CFR 260.21.
  - (2) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard.
  - (3) It is an ignitable compressed gas
    - (i) The term “compressed gas” shall designate any material or mixture having in the container an absolute pressure exceeding 40 p.s.i. at 70 °F or, regardless of the pressure at 70 °F, having an absolute pressure exceeding 104 p.s.i. at 130 °F; or any liquid flammable material having a vapor pressure exceeding 40 p.s.i. absolute at 100 °F as determined by ASTM Test D-323.
    - (ii) A compressed gas shall be characterized as ignitable if any one of the following occurs:
      - A. Either a mixture of 13 percent or less (by volume) with air forms a flammable mixture or the flammable range with air is wider than 12 percent regardless of the lower limit. These limits shall be determined at atmospheric temperature and pressure. The method of sampling and test procedure shall be the ASTM E 681-85 (incorporated by reference, see [§ 260.11](#)), or other equivalent methods approved by the Associate Administrator, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation.
      - B. It is determined to be flammable or extremely flammable using 49 CFR 173.115(l).

(4) It is an oxidizer for the purpose of this subchapter is a substance such as a chlorate, permanganate, inorganic peroxide, or a nitrate, that yields oxygen readily to stimulate the combustion of organic matter.

(i) An organic compound containing the bivalent -O-O- structure and which may be considered a derivative of hydrogen peroxide where one or more of the hydrogen atoms have been replaced by organic radicals must be classed as an organic peroxide unless:

- A. The material meets the definition of a Division 1.1, 1.2, or 1.3 explosive, as defined in § 261.23(a)(8), in which case it must be classed as an explosive,
- B. The material is forbidden to be offered for transportation according to 49 CFR 172.101 and 49 CFR 173.21,
- C. It is determined that the predominant hazard of the material containing an organic peroxide is other than that of an organic peroxide, or
- D. According to data on file with the Pipeline and Hazardous Materials Safety Administration in the U.S. Department of Transportation, it has been determined that the material does not present a hazard in transportation.

(b) A solid waste that exhibits the characteristic of ignitability has the EPA Hazardous Waste Number of D001.

#### 261.22 Characteristic of corrosivity

(a) A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties:

- (1) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using either an EPA test method or an equivalent test method approved by the Administrator under the procedures set forth in 40 CFR 260.20 and 40 CFR 260.21. The EPA test method for pH is specified as Method 5.2 in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see 40 CFR 260.11).
- (2) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55C (130F) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69 as standardized in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see 40 CFR 260.11) or an equivalent test method approved by the Administrator under the procedures set forth in 40 CFR 260.20 and 40 CFR 260.21.

- (b) A solid waste that exhibits the characteristic of corrosivity has the EPA Hazardous Waste Number of D002.

#### 261.23 Characteristic of reactivity.

- (a) A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties:
  - (1) It is normally unstable and readily undergoes violent change without detonating.
  - (2) It reacts violently with water.
  - (3) It forms potentially explosive mixtures with water.
  - (4) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.
  - (5) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.
  - (6) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement.
  - (7) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure.
  - (8) It is a forbidden explosive as defined in 49 CFR 173.51, or a Class A explosive as defined in 49 CFR 173.53 or a Class B explosive as defined in 49 CFR 173.88.
- (b) A solid waste that exhibits the characteristic of reactivity has the EPA Hazardous Waste Number of D003.

#### 261.24 Toxicity characteristic.

- (a) A solid waste exhibits the characteristic of toxicity if the extract from a representative sample of the waste contains any of the contaminants listed in Table I at a concentration equal to or greater than the respective value given in that Table. Where the waste contains less than 0.5 percent filterable solids, the waste itself is considered to be the extract for the purpose of this section.
- (b) A solid waste that exhibits the characteristic of toxicity has the EPA Hazardous Waste Number specified in Table I which corresponds to the toxic contaminant causing it to be hazardous.

**Table I - Maximum Concentration of Contaminants for the Toxicity Characteristic**

EPA Contaminant/CAS Regulatory Number	D034 Hexachloroethane 67-72-1
D004 Arsenic 7440-38-2	D008 Lead 7439-92-1
D005 Barium 7440-39-3	D013 Lindane 58-89-9
D018 Benzene 71-43-2	D009 Mercury 7439-97-6
D006 Cadmium 7440-43-9	D014 Methoxychlor 72-43-5
D019 Carbon tetrachloride 6-23-5	D035 Methyl ethyl ketone 78-93-3
D020 Chlordane 57-74-9	D036 Nitrobenzene 98-95-3
D021 Chlorobenzene 08-90-7	D037 Pentachlorophenol 87-86-5
D022 Chloroform 67-66-3	D038 Pyridine 110-86-1 [3]
D007 Chromium 7440-47-3	D010 Selenium 7782-49-2
D023 o-Cresol 95-48-7	D011 Silver 7440-22-4
D024 m-Cresol 108-39-4	D039 Tetrachloroethylene 127-18-4
D025 p-Cresol 106-44-5	D015 Toxaphene 8001-35-2
D026 Cresol ----- [4]	D040 Trichloroethylene 79-01-6
D016 2,4-D 94-75-7	D041 2,4,5-Trichloro-phenol 95-95-4
D027 1,4-Dichlorobenzene 106-46-7	D042 2,4,6-Trichloro-phenol 88-06-2
D028 1,2-Dichloroethane 107-06-2	D017 2,4,5-TP (Silvex) 93-72-1
D029 1,1-Dichloroethylene 75-35-4	D043 Vinyl chloride 75-01-4
D030 2,4-Dinitrotoluene 121-14-2 [3]	
D012 Endrin 72-20-8	
D031 Heptachlor 76-44-8	
D032 Hexachlorobenzene 118-74-1 [3]	
EPA Contaminant CAS Regulatory Number	
D033 Hexachlorobutadiene 87-68-3	

[1] Hazardous waste number.

[2] Chemical abstracts service number.

[3] Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.

[4] If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 mg/l.



40 CFR 261.33 Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof.

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded as described in 40 CFR 261.2(a)(2)(i), when they are mixed with waste oil or used oil or other material and applied to the land for dust suppression or road treatment, when they are otherwise applied to the land in lieu of their original intended use or when they are contained in products that are applied to the land in lieu of their original intended use, they are produced for use as (or as a component of) a fuel, distributed for use as a fuel, or burned as a fuel.

- (a) Any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section.
- (b) Any off-specification commercial chemical or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph (e) or (f) of this section.
- (c) Any residue remaining in a container or in an inner liner removed from a container that has held any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraphs (e) or (f) of this section, unless the container is empty as defined in 40 CFR 261.7(b) of this chapter. *[Comment: Unless the residue is being beneficially used or reused, or legitimately recycled or reclaimed; or being accumulated, stored, transported or treated prior to such use, re-use, recycling or reclamation, EPA considers the residue to be intended for discard, and thus a hazardous waste. An example of a legitimate re-use of the residue would be where the residue remains in the container and the container is used to hold the same commercial chemical product or manufacturing chemical intermediate it previously held. An example of the discard of the residue would be where the drum is sent to a drum reconditioner who reconditions the drum but discards the residue.]*
- (d) Any residue or contaminated soil, water or other debris resulting from the cleanup of a spill into or on any land or water of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section, or any residue or contaminated soil, water or other debris resulting from the cleanup off a spill, into on any land or water, of any off-specification commercial chemical product or manufacturing chemical intermediate having the generic name listed in listed in paragraph (e) or (f) of this section. *[Comment: The phrase "commercial chemical product or manufacturing chemical intermediate having the generic name listed in ..." refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical*

*that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in paragraph (e) or (f). Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in paragraph (e) or (f), such waste will be listed in either 40 CFR 261.31 or 40 CFR 261.32 or will be identified as a hazardous waste by the characteristics set forth in Subpart C of this part]*

- (e) The commercial chemical products, manufacturing chemical intermediate off-specification commercial chemical product or manufacturing chemical intermediates referred to in paragraphs (a) through (d) of this section, are identified as acute hazardous wastes (H) and are subject to be the small quantity exclusion defined in 40 CFR 261.5(e). *[Comment: For the convenience of the regulated community the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), and R (Reactivity). Absence of a letter indicates that the compound only is listed for acute toxicity]*

## Hazardous Chemical Substance Waste Abstracts No.

P023 107-20-0 Acetaldehyde, chloro

P002 591-08-2 Acetamide, N-(amino  
thioxomethyl)-

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 116-06-2 Aldicarb

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(3)AsO(4)

P012 1327-53-3 Arsenic oxide As(2)O(3)

P011 1303-28-2 Arsenic oxide As(2)O(5)

P011 1303-28-2 Arsenic pentoxide

P012 1327-53-3 Arsenic trioxide

P038 692-42-2 Arsine, diethyl-

P036 696-28-6 Arsonous dichloride, phenyl-

P054 151-56-4 Aziridine

P067 75-55-8 Aziridine, 2-methyl-

P013 542-62-1 Barium cyanide

P024 106-47-8 Benzenamine, 4-chloro-

P077 100-01-6 Benzenamine, 4-nitro-

P028 100-44-7 Benzene, (chloromethyl)-

P042 51-43-4 1,2-Benzenediol, -[1-hydroxy-2-  
(methylamino)ethyl]-, (R)-

P046 122-09-8 Benzeneethanamine, alpha,  
alpha-dimethyl- 14

P014 108-98-5 Benzenethiol

P001 [1]81-81-2 2H-1-Benzopyran-2-one,  
4-hyd-roxy-3-(3-oxo-1-phenylbutyl)-and salts when  
present at concentrations greater than 0.3%

P028 100-44-7 Benzyl chloride

P015 7440-41-7 Beryllium

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)(2)

P022 75-15-0 Carbon disulfide

P095 75-44-5 Carbonic dichloride

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)2

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	P049 541-53-7 Dithiobiuret
P034 131-89-5 2-Cyclohexyl-4,6-dinitro phenol	P050 115-29-7 Endosulfan
P016 542-88-1 Dichloromethyl ether	P088 145-73-3 Endothall
P036 696-28-6 Dichlorophenylarsine	P051 72-20-8 Endrin
P037 60-57-1 Dieldrin	P051 72-20-8 Endrin, & metabolites
P038 692-42-2 Diethylarsine	P042 51-43-4 Epinephrine
P041 311-45-5 Diethyl-p-nitrophenylphosphate	P031 460-19-5 Ethanedinitrile
P040 297-97-2 O,O-Diethyl O-pyrazinyl phosphorothioate	P066 16752-77-5 Ethanimidothioic acid, N [[[(methylamino)carbonyl]oxy]-, methyl ester
P043 55-91-4 Diisopropylfluorophosphate (DFP)	P101 107-12-0 Ethyl cyanide
P004 309-00-2 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a, 5,8,8a-hexahydro-, (1alpha,4alpha, 4abeta,5alpha, 8alpha, 8abeta)-	P054 151-56-4 Ethyleneimine
P060 465-73-6 1,4,5,8-Dimethanonaphthalene,1,2, 3,4,10,10-hexachloro-1,4,4a,5,8,8 a -hexahydro-, (1alpha,4alpha,4 abeta,5beta,8beta,8abeta)-	P097 52-85-7 Famphur
P037 60-57-1 2,7:3,6-Dimethanonaphth[2,3b] oxirane, 3,4,5,6,9,9-hexachloro- 1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta, 6beta,6aalpha,7beta,7aalpha)-	P056 7782-41-4 Fluorine
P051 72-20-5 2,7:3,6-Dimethanonaphth[2,3b] (1aalpha,2beta,2abeta,3alpha, 6alpha,6abeta,7beta,7aalpha)-, & metabolites	P057 640-19-7 Fluoroacetamide
P044 60-51-5 Dimethoate	P058 62-74-8 Fluoroacetic acid, sodium salt
P046 122-09-8 alpha, alpha-Dimethylphene thylamine	P065 628-86-4 Fluminic acid, mercury(2+) salt (R,T)
P047 [1]534-52-1 4,6-Dinitro-o-cresol, salts	P059 76-44-8 Heptachlor
P048 51-28-5 2,4-Dinitrophenol	P062 757-58-4 Hexaethyl tetraphosphate
P020 88-85-7 Dinoseb	P116 79-19-6 Hydrazinecarbothioamide
P085 152-16-9 Diphosphoramidate, octamethyl-	P068 80-34-4 Hydrazine, methyl-
P111 107-49-3 Diphosphoric acid, tetraethylester	P063 74-90-8 Hydrocyanic acid
P039 298-04-4 Disulfoton	P063 74-90-8 Hydrogen cyanide
	P096 7803-51-2 Hydrogen phosphide
	P060 465-73-6 Isodrin
	P007 2763-96-4 3(2H)-Isoxazolone, 5- (aminomethyl)-
	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-	P085 152-16-9 Octamethylpyrophosphoramidate
P016 542-88-1 Methane, oxybis[chloro-	P087 20816-12-0 Osmium oxide OsO(4), (T-4)-
P112 509-14-8 Methane, tetranitro- (R)	P087 20816-12-0 Osmium tetroxide
P118 75-70-7 Methanethiol, trichloro- 15	P088 145-73-3 7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
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	P089 56-38-2 Parathion
P059 76-44-8 4,7-Methano-1H-indene,1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro	P034 131-89-5 Phenol, 2-cyclohexyl-4,6-dinitro-
P066 16752-77-5 Methomyl	P048 51-28-5 Phenol, 2,4-dinitro-
P068 60-34-4 Methyl hydrazine	P047 [1]534-52-1 Phenol, 2-methyl-4,6-dinitro- and salts
P064 624-83-9 Methyl isocyanate	P020 88-85-7 Phenol, 2-(1-methylpropyl) -4,6-dinitro-
P069 75-86-5 2-Methylactonitrile	P009 131-74-8 Phenol, 2,4,6-trinitro-, ammonium salt (R)
P071 298-00-0 Methyl parathion	P092 62-38-4 Phenylmercury acetate
P072 86-88-4 alpha-Naphthylthiourea	P093 103-85-5 Phenylthiourea
P073 13463-39-3 Nickel carbonyl	P094 298-02-2 Phorate
P073 13463-39-3 Nickel carbonyl Ni(CO)(4), (T-4)-	P095 75-44-5 Phosgene
P074 557-19-7 Nickel cyanide	P096 7803-51-2 Phosphine
P074 557-19-7 Nickel cyanide Ni(CN)(2)	P041 311-45-5 Phosphoric acid, diethyl 4-nitro phenyl ester
P075 [1]54-11-5 Nicotine and salts	P039 298-04-4 Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl]ester
P076 10102-43-9 Nitric oxide	P094 296-04-2 Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester
P077 100-01-6 p-Nitroaniline	P044 60-51-5 Phosphorodithioic acid, O,O-dimethyl -[2-(methylamino)- 2-oxoethyl]
P078 10102-44-0 Nitrogen dioxide	P043 55-91-4 Phosphorofluoridic acid, bis-(1-methylethyl) ester
P076 10102-43-9 Nitrogen oxide NO	P089 56-38-2 Phosphorothioic acid, O,O-diethyl
P078 10102-44-0 Nitrogen oxide NO(2)	P040 297-92-2 Phosphorodithioic acid, O,O-diethyl O-pyrazinyl ester
P081 55-63-0 Nitroglycerine (R)	P097 52-85-7 Phosphorodithioic acid, O-O,4[[di(methylamino)sulfonyl]phenyl]O,O-dimethyl ester
P082 62-75-9 N-Nitrosomethylamine	
P084 4549-40-0 N-Nitrosomethylvinylamine	

P071 296-00-0 Phosphorodithioic acid, O,O-dimethyl O-(4-nitrophenyl)ester	P108 [1]57-24-9 Strychnidin-10-one, and salts
P110 78-00-2 Plumbane, tetraethyl-	P018 357-57-3 Strychnidin-10-one, 2,3- dimethoxy-
P098 151-50-8 Potassium cyanide	P108 [1]57-24-9 Strychnine, and salts
P098 151-50-8 Potassium cyanide K(CN)	P115 7446-18-6 Sulfuric acid, ithallium salts
P099 506-61-6 Potassium silver cyanide	P109 3689-24-5 Tetraethyldithiopyrophosphate
P070 116-06-3 Propanal, 2-methyl-2-(methylthio)-O-[(methylamino)carbonyl]oxime	P110 78-00-2 Tetraethyl lead
P101 107-12-0 Propanenitrile	P111 107-49-3 Tetraethyl pyrophosphate
P027 542-76-7 Propanenitrile,3-chloro-	P112 509-14-8 Tetranitromethane (R)
P069 75-86-5 Propanenitrile, 2-hydroxy -2-methyl-	P062 757-58-4 Tetrphosphoric acid, hexaethyl ester
P081 55-63-0 1,2,3-Propanetriol, trinitrate (R)	P113 1314-32-5 Thallic oxide
P017 598-31-2 2-Propanone, 1-bromo-	P113 1314-32-5 Thallium oxide Tl(2)O(3)
P102 107-19-7 Propargyl alcohol	P114 12039-52-0 Thallium(I) selenite
P003 107-02-8 2-Propenal	P115 7446-18-6 Thallium(I) sulfate
P005 107-18-6 2-Propen-1-ol	P109 3689-24-5 Thiodiphosphoric acid, tetraethyl ester
P067 75-55-8 1,2-Propylenimine	P045 39196-18-4 Thiofanox
P102 107-19-7 2-Propyn-1-ol	P049 541-53-7 Thiomidodicarbonic diamide (H(2)N)C(S)](2)NH
P008 504-24-5 4-Pyridinamine	P014 108-98-5 Thiophenol
P075 [1]54-11-5 Pyridine, 3-(1-methyl-2-pyrrolidinyl)-,(S)-, and salts	P116 79-19-6 Thiosemicarbazide
P114 12039-52-0 Selenious acid, dithallium(1+) salt	P026 5344-82-1 Thiourea, (2-chlorophenyl)-
P103 630-10-4 Selenourea	P072 86-88-4 Thiourea, 1-naphthalenyl-
P104 506-64-9 Silver cyanide	P093 103-85-5 Thiourea, phenyl-
P104 506-64-9 Silver cyanide Ag(CN)	P123 8001-35-2 Toxaphene
P105 26628-22-8 Sodium azide	P118 75-70-7 Trichloromethanethiol
P106 143-33-9 Sodium cyanide	P119 7803-55-6 Vanadic acid, ammonium salt
P106 143-33-9 Sodium cyanide Na(CN)	P120 1314-62-1 Vanadium oxide V(2)O(5)
	P120 1314-62-1 Vanadium pentoxide

P084 4549-40-0 Vinylamine, N-methyl-N-nitroso

P001 [1]81-81-2 Warfarin, & salts, when present at concentrations greater than 0.3% P121 557-21-1 Zinc cyanide

P121 557-21-1 Zinc cyanide  $\text{Zn}(\text{CN})_2$

P122 1314-84-7 Zinc phosphide  $\text{Zn}_3\text{P}_2$ , when than 10% (R,T)

[1] CAS Number given for parent compound only.

(f) The commercial chemical products, manufacturing chemical intermediates, or off-specification commercial chemical products referred to in paragraphs (a) through (d) of this section, are identified as toxic wastes (T), unless otherwise designated and are subject to the small quantity generator exclusion defined in 40 CFR 261.5 (a) and (g).

*[Comment: For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), R (Reactivity), I (Ignitability) and C (Corrosivity). Absence of a letter indicates that the compound is only listed for toxicity.]*

## APPENDIX C

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### Source Reduction and Waste Minimization Plan

#### Environmental Commitment Statement

All lands held or managed by the Texas A&M University System, including trust lands and Permanent University Fund Lands, should be managed in a manner that will assure the proper use and protection of natural resources, and the environment, for the benefit of all.

Each component, institution, and agency of the Texas A&M University System are expected to establish and maintain a standing committee, and such other committees and subcommittees as necessary, to address and monitor compliance with applicable environmental, health and safety guidelines, standards, laws, regulations, ordinances, and permit or license requirements.

Accordingly, all employees of Texas A&M University-Corpus Christi shall perform their duties in compliance with all applicable Federal, State, and local environmental laws, regulations, and ordinances. The TAMU-CC Environmental Committee and the TAMU-CC University Safety Committee are charged with ensuring health, safety, and environmental considerations and guidance is provided to university administration and community.

Additionally, the TAMU-CC Environmental, Health & Safety Department is committed to ensuring compliance, providing appropriate training, and promoting awareness so that administrators, supervisors, employees, and students can perform their duties and conduct activities in an environmentally responsible and safe manner. To this end, guidance and technical support is provided to develop, implement, and maintain the university's environmental and safety programs.

Further, Texas A&M University-Corpus Christi is committed to make reasonable efforts to minimize waste generated by TAMU-CC activities and to achieve the goals set out in Governor's Executive Order AWR-92-2, Texas Waste Reduction Policy Act (1991) and other applicable requirements.



## **Source Reduction and Waste Minimization**

### **I. Introduction**

Early federal regulations on disposal of hazardous waste were aimed at controlling pollution of the environment. Today, the focus is shifting from controlling pollution to preventing pollution. The Pollution Prevention Act of 1990 (Federal Regulation) made the prevention of pollution and reduction of waste generation a national priority. Texas Waste Reduction Policy Act (Senate Bill 1099 of 1991) requires industries, businesses, and institutions that generate hazardous waste or release toxins into the environment to prepare a Source Reduction and Waste Minimization Plan. Presently, this plan will influence the activities at Texas A&M University-Corpus Christi. To this end, the TAMU-CC Environmental, Health & Safety Department shall coordinate the development and implementation of appropriate procedures.

The cost of commercial waste disposal continues to rise, and the amount of waste generated continues to increase. Although we cannot control disposal costs, the amount of waste that would be generated can be reduced. Emphasis is placed on "Front-end waste minimization" (reducing the amount and toxicity of hazardous materials used) as the primary means for reducing hazardous waste. At TAMU-CC, research and teaching laboratories and other working groups (Facilities Services, etc.) should examine their purchasing practices and systems, their chemical usage, and workplace activities to identify potential points of their operations where source reduction and waste minimization can be implemented.

Reduction of the volume and hazard of chemical waste benefits the public by protecting their health and safety, the environment, and by reducing disposal costs. The volume and type of hazardous waste disposed of determines these costs. Volume of waste can be reduced through source reduction and by recycling. Texas A&M University-Corpus Christi's approach is intended to fulfill the requirements of the law, to achieve economic benefits, and to be an extension of the Texas A&M University-Corpus Christi's Environmental Philosophy.

## II. Hazardous Waste Streams at Texas A&M University-Corpus Christi

Texas A&M University-Corpus Christi generates several waste streams. Many times, there are not EPA approved methods for source reduction and minimization for these lab waste streams. For this reason, laboratories face a greater challenge in managing hazardous waste. Below is a list of the broad categories of the waste streams generated at TAMU-CC.

Texas Waste Code	Waste Description
1. 0001103H	Spent acid liquid from lab operations. Corrosive.
2. 0002204H	Flammable solvent waste from lab operations. Flammable.
3. 0003003H	Mixed lab packs from miscellaneous lab operations
4. 0004209H	Paint waste, excess and unused from facilities maintenance operations.
5. 0005202H	Unused and excess freon liquid from refrigeration processes. Poisonous liquid.
6. 0006801H	Unused and excess organic gasses
7. 0007003H	Flammable and Toxic Liquid
8. 0008004H	Lab Pack containing Acute Hazardous Waste
9. 0501203H	Spent solvent from parts cleaning.
10. 0523211H	Paint related waste/paint gun cleaner
11. 0629119H	Photo graphic waste.
12. 0630117H	Mercury debris from broken thermometers
13. 0631407H	Phenol/Chloroform/Acid/Flammable/Hazardous Slam Pack Debris
14. 0632110H	Inorganic base consolidated with a D002 code. Caustic aqueous waste.
15. 0633219H	Used formalin and water
16. 0634302H	soil contaminated with arsenic
17. 0635209H	Flammable waste liquid waste mineral spirits, spend adhesive, paint
18. 0636209H	Spent floor coating material
19. 4409219H	flammable waste liquid UN1993 waste mineral spirits, spent adhesive, paint
20. 4410407H	Calcium Hypochlorite, General Oxidizer
21. 4411119H	Bulk oxidizing/corrosive liquids
22. 4412201H	Waste Ethanol Solutions
23. 4413119H	Waste Mercuric Chloride
24. 4414319H	Debris from a containment basin used to catch spilled metals and slag from the forging and casting process

### III. Source Reduction and Waste Minimization Goals

The source reduction and waste minimization goals of this plan are:

- Comply with all government regulations regarding management of hazardous waste.
- Manage hazardous waste using the most responsible and environmentally sound methods.
- Increase the awareness of all employees of their responsibility for reducing hazardous waste and pollution prevention.
- Improve the effectiveness and efficiency of the waste management program and reduce the costs of waste handling and disposal.
- Reduce the risk to human health and environment by proper waste management.

#### Source Reduction Techniques

##### 1. Chemical/Equipment Purchases and Inventory Control

- a) Utilize chemical management tools for chemical purchase and inventory control. Maintaining current chemical inventories will prevent over ordering new chemicals and disposing of chemicals after expiration. Usable chemical, in good condition, can be exchange between laboratories, Departments, Colleges, etc. Contact TAMU-CC EHS for assistance.
- b) Negotiate contracts with chemical suppliers to gain volume discounts based on annual volume of chemicals purchased. In these contacts, insist on flexible delivery schedules of fewer, smaller-sized containers without cost penalties. This may require centralized purchasing and distribution of all chemicals.
- c) Purchase reagent chemicals in quantities that are appropriate to the scale of the experiment being used. Limit acquisition of chemicals to quantities required for immediate use. Do not order quantities to obtain special unit cost savings. These savings will normally be lost due to eventual disposal costs if the chemical is not entirely used.
- d) Obtain compressed gases, when possible, from vendors who will accept return of their empty or partially full cylinders.
- e) Include waste generation as criteria in equipment selection.
- f) Rotate chemical stocks to use chemicals before their shelf lives expire.

## 2. Chemical Usage

- a) Ensure proper handling and storage of chemical containers. Laboratory safety training is required before entry into work areas with hazardous materials.
- b) Reduce spills and wastes generated by pre-measuring chemicals for use.
- c) Ensure proper labeling of all secondary containers. Replace all deteriorating labels on primary and secondary containers.
- d) Substitute less hazardous chemicals whenever possible. Example: biodegradable scintillation cocktails instead of xylene or toluene-based cocktails. Minimize the use of heavy metals (silver, chrome, mercury, barium, cadmium, and lead) chemicals.
- e) Substitute alcohol or electronic thermal monitors for mercury thermometers.
- f) Use No-Chromix, detergents, or enzymatic cleaners instead of sulfuric/chromic acid cleaning solutions for cleaning laboratory glassware.
- g) Minimize solvent waste by reuse, recycle, or substitution.

### **Waste Minimization Techniques**

- 1. Prevent the mixing of different types of waste. Do not put inorganic heavy metal waste in with solvents as this will increase disposal costs. Segregate halogenated waste solvents from non-halogenated waste solvents.
- 2. Keep waste streams segregated by storing them in separate waste containers. Label waste containers with the full name(s) of the waste material(s) stored in them.
- 3. Decontaminate and reuse empty containers to prevent them from being handled as hazardous wastes.
- 4. When possible, redesign experimental protocols so that harmful byproducts are detoxified or reduced in volume as a final step.

#### **IV. Employee Awareness and Training Program**

Source reduction and waste minimization is a fundamental responsibility of all TAMU-CC students, faculty, and staff. Appropriate training is provided to all employees in laboratories, shops, or other workplaces where hazardous waste is generated. Training and information are provided to employees at the time of their initial assignment to a work area with occupational exposure to hazardous materials. Students enrolled in a course or lab involving hazardous materials are required to complete the laboratory safety training before entering the lab. The TAMU-CC Environmental, Health & Safety Department provides guidance and technical support for development of environmental training for employees and students.

Training is intended to keep personnel informed of issues and technologies related to pollution prevention and waste minimization. Information and training are provided in the following categories:

1. Regulations and laws effecting pollution prevention and hazardous waste generation.
2. Required personal protection equipment.
3. Hazardous materials and hazardous waste.
  - A. Proper storage.
  - B. Safe and proper handling.
  - C. Disposal.
  - D. Transportation.
4. Inventory tracking.
5. Acquisition of hazardous materials and equipment.
6. Substitution/elimination of hazardous materials.
7. Economic/environmental impacts of hazardous waste generation and disposal.