WASTE MANAGEMENT PLAN

Presented to:

Abilene Christian University
1600 Campus Court
Abilene, Texas 79699

JOB # ABI2001.RC

Prepared:

May 2012

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* Populated in hard copy only, located in Office of Risk Management

ACRONYM LIST

ACM	Asbestos Containing Materials
BMP	Best Management Practice
CAA	Central Accumulation Area
CESQG	Conditionally Exempt Small Quantity Generator
CFR	Code of Federal Regulations
DIY	Do-It-Yourselfer
DOT	Department of Transportation
EHS	Environmental Health and Safety
EPA	Environmental Protection Agency
FIFRA	Federal Insecticide, Fungicide and Rodenticide Act
ICR	Ignitable, Corrosive or Reactive
ICUT	Texas Association of Independent Colleges and Universities
LDR	Land Disposal Restriction
LQG	Large Quantity Generator
LQHUW	Large Quantity Handler of Universal Waste
NESHAP	National Emissions Standards for Hazardous Air Pollutants
PPRM	Paint and Paint Related Material
RCRA	Resource Conservation and Recovery Act
SAA	Satellite Accumulation Area
SPCC	Spill Prevention Control and Countermeasures
SQG	Small Quantity Generator
SQHUW	Small Quantity Handler of Universal Waste
RCRA	Resource Conservation and Recovery Act
TCEQ	Texas Commission on Environmental Quality
TCLP	Toxicity Characteristic Leaching Procedure
TSDF	Treatment, Storage or Disposal Facility
WMP	Waste Management Plan

GLOSSARY OF TERMS

Abandoned Materials that are disposed of or thrown away; burned or incinerated; or accumulated, stored or treated (but not recycled) before or in lieu of being disposed of, burned or incinerated.

Accumulation Start Date – Hazardous Waste in Satellite Storage

The date in which a container containing hazardous waste reaches 55-gallons (or 2.2 gallons of acutely hazardous waste). If less than 55-gallons of waste is in the container, the date in which a container is transferred to the central accumulation area.

Accumulation Start Date – Hazardous Waste in Central Storage

The date in which the waste is initially added to the storage container holding the hazardous waste.

Accumulation Start Date – Universal Waste

The date in which the waste is initially added to the storage container holding the Universal Waste.

Acute Hazardous Waste

Hazardous waste identified either on the "P-list" or having the following waste codes: F020, F021, F023, F027, and F028.

Asbestos Containing Materials

Any material found to contain greater than one percent (1%) asbestos.

Biohazardous Waste

See Medical Waste

Class 1 Wastes

Any industrial solid waste or mixture of industrial solid wastes that because of its concentration, or physical or chemical characteristics is toxic, corrosive, flammable, a strong sensitizer or irritant, a generator of sudden pressure by decomposition, heat, or other means, or may pose a substantial present or potential danger to human health or the environment when improperly processed, stored, transported, or disposed of or otherwise managed, as further defined in §335.505 of this title (relating to Class 1 Waste Determination).

Class 2 Wastes

Any individual solid waste or combination of industrial solid waste that are not described as Hazardous, Class 1, or Class 3 as defined in §335.506 of this title (relating to Class 2 Waste Determination).

Class 3 Wastes

Inert and essentially insoluble industrial solid waste, usually including, but not limited to, materials such as rock, brick, glass, dirt, and certain plastics and rubber, etc., that are not readily decomposable, as further defined in §335.507 of this title (relating to Class 3 Waste Determination).

Commercial Chemical Product

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.

Corrosivity This characteristic identifies solid wastes that have either of the following properties:

- it is aqueous and has a pH $\leq$2 or $\geq$12.5; and
- it is a liquid and corrodes steel at a rate greater than 0.25 inches per year at a test temperature of 130°F (55°C).

Electronic Waste (E-Waste)

Waste consisting of computers, monitors, cathode ray tubes (CRTs), radios, and other electronic equipment that is to be discarded and not recycled.

Hazardous Waste

A waste, when not properly handled or disposed, may present an unreasonable or substantial risk to human health or the environment. A solid waste qualifies as a hazardous waste if it falls under any one of the four (4) categories listed below and does not qualify for any of the exemptions or exclusions listed under Federal and/or State regulations.

1) A waste or waste generation process which has been specifically identified by EPA to be **"listed"** hazardous waste. Included under this category are products in their pure or off-specification form which are discarded and contain specific hazardous constituents.

2) Those solid waste and waste generation processes that have <u>not</u> been specifically listed by EPA but exhibit one or more of the four **characteristics** of hazardous waste irrespective of the manufacturing produces from which it is generated. The four characteristics are: ignitability (I), corrosivity (C), reactivity (R), or toxicity (T).
3) It is a **mixture** of a listed hazardous waste and any other material, or is a **mixture** of a characteristic waste and any other material, provided the mixture still exhibits the characteristic (i.e., mixture rule).
4) It is a residue that is **"derived from"** the treatment, storage, or disposal of a listed waste.

Ignitability This characteristic identifies solid wastes that are capable of causing a fire or exacerbating a fire once it has started during routine handling of material. These wastes include:

- *Liquids*: Other than an aqueous solution containing less than 24% alcohol by volume and has a flashpoint of less than 140°F (60°C);
- *Non-Liquids:* Capable under standard temperature and pressure of (1) causing fire through friction, absorption of moisture or spontaneous chemical changes and (2) when ignited burn so vigorously and persistent that it creates a hazard;
- *Ignitable Compressed Gases:* As defined under 49 CFR 173.300; and
- *Oxidizers:* As defined in 49 CFR 173.151.

Inherently Waste-Like

Materials that are inherently waste-like are materials that pose significant threats to human health and the environment if mismanaged (i.e., too hazardous to be unregulated). These materials have been designated with the EPA Hazardous Waste Codes F020 to F023 and F026 to F028, and secondary materials fed to a halogen acid furnace that exhibit a characteristic of a hazardous waste or are listed hazardous waste.

Medical Waste

Treated and untreated special waste from health care-related facilities that is comprised of animal waste, bulk blood, bulk human blood, bulk human body fluids, microbiological waste, pathological waste, and sharps as those terms are defined in 25 Texas Administration Code (TAC) §1.132 (relating to Definitions) from the sources specified in 25 TAC §1.134 (relating to Application), as well as regulated medical waste as defined in 49 Code of Federal Regulations §173.134(a)(5), except that the term does not include medical waste produced on a farm or ranch as defined in 34 TAC §3.296(f) (relating to Agriculture, Animal Life, Feed, Seed, Plants, and Fertilizer), nor does the term include artificial, nonhuman materials removed from a patient and requested by the patient, including, but not limited to, orthopedic devices and breast implants. Health care-related facilities do not include:

- single or multi-family dwellings; and
- hotels, motels, or other establishments that provide lodging and related services for the public.

Reactivity This characteristic identifies wastes that are unstable and may react violently or explode during stages of their management. Solid wastes that exhibit any of the following properties are classified as reactive wastes:

- normally unstable and readily undergoes violent change without detonating;
- reacts violently with water;
- forms potentially explosive mixtures with water;
- generates toxic gases, vapors or fumes in a sufficient quantity to pose a danger when mixed with water;

- 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 environment;
- capable of detonation or explosive reaction if it is subjected to a strong initiations source or if heated under confinement;
- readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure; and
- forbidden explosive as defined by DOT regulations or is a Class A explosive, or a Class B explosive as defined in DOT regulations.

Recycled Reused or reclaimed according to the following Table.

RECYCLED MATERIALS WHICH ARE SOLID WASTES

Secondary Material Categories	Use Constituting Disposal [§261.2(c)(1)]	Energy Recovery/Fuel [§261.2(c)(2)]	Reclamation [§261.2(c)(3)]	Speculative Accumulation [§261.2(c)(4)]
Spent Materials	*[1]	*	*	*
Sludge (listed in 40 CFR Part 261.31 or 261.32)	*	*	*	*
Sludge exhibiting a characteristic of hazardous waste	*	*	---[4]	*
By-products (listed in 40 CFR Part 261.31 or 261.32)	*	*	*	*
By-products exhibiting a characteristic of hazardous waste	*	*	---[4]	*
Commercial chemical products[2, 3] listed in 40 CFR 261.33	*	*	---[4]	---[4]
Scrap metal other than excluded scrap metal (see 40 CFR 261.1(c)(9)	*	*	*	*

Notes:

[1]Solid wastes are noted with an "*".

[2]Commercial chemical products are not solid wastes if land disposal is their ordinary manner of use.

[3]Commercial chemical products are not solid wastes if they are themselves fuels.

[4]Materials noted with a "---" are not solid wastes.

Solid Waste A solid waste, which can be a solid, liquid, semi-solid or gaseous material, is defined as any discarded material that is not specifically excluded. A "discarded material" is any material, which is either:

- Abandoned (i.e. thrown away or disposed of);
- Inherently waste like;
- Military munitions; or
- Recycled in a manner constituting disposal, burning for energy recovery, reclaimed or over accumulated.

Special Waste Special waste is any solid waste that requires special handling and disposal because of its quantity, concentration, physical or chemical characteristics, or biological properties. Special waste is defined in Title 30 Texas Administrative Code (30 TAC), Chapter 330, 330.3. Special waste that is not specifically identified in 30 TAC 330.171(c) or (d), or 330.173 requires prior written authorization by the TCEQ for disposal. Special wastes identified in, and meeting the requirements of, 30 TAC 330.171(c) and (d) do not require prior written authorization before disposal, provided the MSW landfill is permitted to accept these wastes. These include:

- Municipal hazardous waste from conditionally exempt small-quantity generators may be accepted at a Type I or Type IAE landfill provided the amount of waste does not exceed 220 lb (100 kg) per month per generator.
- Municipal wastewater treatment plant sludges, other types of domestic sewage treatment plant sludges, and water-supply treatment plant sludges.
- Liquid wastes from municipal sources that are treated or processed to eliminate free liquids and tested in accordance with 30 TAC 330.171(c)(7).
- Grease-trap and grit-trap wastes.
- Slaughterhouse wastes.
- Dead animals.
- Empty pesticide (insecticide, herbicide, fungicide, or rodenticide) containers that have been triple rinsed and rendered unusable.

Toxicity This characteristic measures the potential of a waste to leach toxic constituents into ground water when land disposed assuming mismanagement or co-disposal in an unlined, municipal solid waste landfill. Compounds, which are analyzed under the current Toxicity Characteristic Leaching Procedure (TCLP) test and their regulatory levels, are listed in Appendix A.

1.0 INTRODUCTION

This plan has been developed by HRP Associates, Inc., on behalf of Abilene Christian University (ACU) to establish a program to comply with the regulations set forth in 40 CFR Subchapter I: Solid Waste and TCEQ Administrative Code Title 30, Part 1, Chapter 335, Subpart C, which also references adoption of Title 40 CFR Parts 260-268 of the Federal hazardous waste regulations with few exceptions and/or changes.

ACU is currently identified and operating as a Conditionally Exempt Small Quantity Generator (CESQG) of hazardous waste. ACU manages some of its applicable hazardous waste as Universal Waste. This allows for longer storage times and the reduced burden of regulations on wastes such as used lamps, used batteries, used mercury-containing equipment, and paint and paint-related material. ACU is also identified and operating as a Small Quantity Handler of Universal Waste (SQHUW) as defined as generating universal wastes, not treating or recycling on site, in amounts less than 5,000 kilograms at any given time.

This Waste Management Plan (WMP) addresses the total life cycle of hazardous waste generated at and disposed by Abilene Christian University. Within this plan is guidance on classifying and analyzing waste, storing hazardous waste, inspecting hazardous waste storage areas, disposing of hazardous waste, complying with a waste minimization program, training employees on hazardous waste, establishing contingency plans, and preparing any state or federal required reporting.

This WMP also documents procedures and practices for Universal Waste, used oil, medical waste, polychlorinated biphenyl (PCB) waste, aerosol cans, empty containers, asbestos containing materials, e-waste, special waste, and unknown wastes.

This plan is to be administered by employees of ACU and by contractors working on their behalf.

1.1 LIMITATIONS

This plan is not intended to address the safe handling of chemicals in laboratories as required under OSHA regulation 29 CFR 1910.1450 nor is this plan intended to define the requirements for employees exposed to Asbestos Containing Materials as required under OSHA regulations 29 CFR 1910.1001, 29 CFR 1926.1101, or 40 CFR 763.92. ACU has a Chemical Hygiene Plan under a separate cover, which addresses the safe handling, storage and usage of chemicals in laboratories. ACU should review the requirements set forth in the aforementioned regulations associated with safe lab practices and asbestos to assure all staff and students meet the necessary requirements.

1.2 LOCATIONS

Copies of this WMP are located in the following areas on campus:

1. Office of Risk Management.
2. Electronically on the Abilene Christian University intranet.

2.0 RESPONSIBILITIES

It is the responsibility of all employees, students, and contractors working on behalf of ACU to handle, store, and dispose of hazardous waste, universal waste, biohazardous waste, and regulated non-hazardous waste in a manner that is in compliance with all applicable state and federal regulations.

2.1 SENIOR VICE PRESIDENT

The Abilene Christian University Senior Vice President has the ultimate responsibility for proper waste handling and provides along with other officers and administrators, support for efforts to minimize waste generation and comply with all applicable waste regulations. The Senior Vice President supervises and authorizes the faculty and staff to take steps necessary to carry out the objectives of the WMP including the following:

1. Providing the necessary resources, training, and staffing required to implement the WMP.

2. Monitoring the implementation of the WMP at all applicable levels of administration with Abilene Christian University.

3. Ensuring that any required licensing, permits, or approval from local, state, and federal agencies to purchase, store, use, synthesize, administer, and/or dispose of any hazardous material, prescribed medication, or controlled substance.

2.2 ENVIRONMENTAL HEALTH & SAFETY OFFICER

For the purpose of this plan, the Safety Manager of the Office of Risk Management will serve as the Environmental Health and Safety (EHS) Officer. The EHS Officer of ACU is responsible for the day-to-day activities associated with hazardous waste, universal waste, biohazardous waste, and regulated non-hazardous waste management including, but not limited to:

1. Working with the appropriate personnel to evaluate, implement, and update the WMP on a routine basis. Providing technical expertise and administrative support to the faculty and staff and direct inquiries to appropriate resources.

2. Aiding in hazardous waste stream determinations and consulting with faculty and staff each semester to ensure that waste stream determinations continue to be completed each semester for new waste streams.

3. Assisting the departments in ensuring that hazardous waste, universal waste, biohazardous waste, and non-hazardous waste, containers are appropriately labeled, handled, stored, and managed.

4. Conducting, or designating the conducting of, inspections of centralized accumulation areas (CAA) and satellite accumulation areas (SAA) for hazardous waste collection. These Inspection Forms have been provided in Appendix D.

5. Acting as a liaison between campus hazardous waste operations and the Facilities office. Bring unresolved and potentially serious waste related issues to the Dean's attention.

6. Maintaining records and making them available to employees, administrative personnel, and state or federal officials.

7. Monitoring use and disposal of laboratory chemicals.

8. Training, or coordinate the training of, all ACU employees and other personnel who may handle, generate or prepare hazardous waste for shipment. This includes both RCRA Hazardous Waste Management Training (annual) and DOT Hazardous Materials Training (every 3 years).

9. Coordinating waste pickups, from all departments, and with off-site vendors.

10. Familiarizing oneself with laboratory procedures and all other applicable campus emergency plans which are maintained under separate cover.

2.3 FACULTY AND STAFF

Faculty and staff, who have the responsibility of Environmental Health & Safety of a campus operation or the responsibility of instruction of students at Abilene Christian University, participate in the implementation of this WMP and overall proper waste practice by:

1. Informing and training students and workers on waste procedures as it applies to activities in their areas.

2. Performing and documenting waste stream determinations for waste generated by their activities.

3. Ensuring student and lab worker compliance with the WMP.

4. Before each lesson, teaching students about proper waste disposal as it applies to that day's activity.

5. Ensuring that all containers of hazardous waste, universal waste, biohazardous

waste, and regulated non-hazardous wastes are properly labeled, closed, and stored; and,

6. Requesting assistance, if needed, from the Environmental Health and Safety Officer.

2.4 STUDENT AND LAB WORKERS

Students and lab workers participate in the implementation of this WMP and overall proper waste disposal:

1. Following all rules and procedures established in the WMP as communicated by staff and faculty.

2. Aiding in waste stream determinations for waste generated by their activities.

3. Requesting information and training if not sure about proper waste procedures.

3.0 HAZARDOUS WASTE GENERATOR STATUS

Each generator of hazardous waste must determine their generator status for each calendar month. This exercise is necessary to identify those regulatory requirements in which ACU must comply. The generator status is determined by the sum of hazardous waste *generated* on site, not the amount shipped, in one calendar month. Additionally, there are limitations on aggregate storage that may affect one's generator status.

There are three generator categories for hazardous waste and two categories for universal waste as defined in Table 1. ACU is currently a CESQG of hazardous waste. ACU is also categorized as a SQHUW. These categories are defined in the table below.

Table 1: Generator Status Defined

Generator Category	Amount of Hazardous Waste Generated in a Month (unless otherwise noted)	Amount of Acute Hazardous Waste Generated in a Month	Amount of Residue or Contaminated Debris from a Spill of Acute Hazardous Waste	Maximum Amount of Waste Stored on Site at Any Given Time
HAZARDOUS WASTE STATUS				
Conditionally Exempt Small Quantity Generator (CESQG)	**< 100 kilograms (< 220 pounds)**	**< 1 kilogram (<2.2 pounds)**	**< 100 kilograms (< 220 pounds)**	**≤ 1000 kg (≤2,200 lbs) or ≤1 kg (≤2.2 lbs) of acute hazardous waste**
Small Quantity Generator (SQG)	< 1000 kilograms (< 2200 pounds)	< 1 kilogram (<2.2 pounds)	< 100 kilograms (< 220 pounds)	≤ 6000 kg (≤13,200 lbs) or ≤1 kg (≤2.2 lbs) of acute hazardous waste
Large Quantity Generator (LQG)	≥ 1000 kilograms (≥ 2200 pounds)	≥ 1 kilogram (>2.2 pounds)	≥ 100 kilograms (> 220 pounds)	> 6000 kg (>13,200 lbs) or >1 kg (>2.2 lbs) of acute hazardous waste
UNIVERSAL WASTE STATUS				
Small Quantity Handlers of Universal Waste (SQHUW)	**< 5000 kilograms of Universal Waste (< 110,000 pounds) At any time**	**N/A**	**N/A**	**Accumulate no more than one year**
Large Quantity Handlers of Universal Waste (SQHUW)	≥ 5000 kilograms of Universal Waste (≥ 110,000 pounds) At any time	N/A	N/A	Accumulate no more than one year

3.1 REQUIREMENTS

At the time that this plan was prepared, ACU is currently identified and operating as a Conditionally Exempt Small Quantity Generator (CESQG) of hazardous waste since it generates less than 220 pounds of hazardous waste per month. Regardless of their generator status, ACU has made the decision to comply with the majority of requirements (i.e. container management, personnel training) of a Small Quantity Generator (SQG) of hazardous waste as a Best Management Practice. Close monitoring of campus status must be ensured when wastes are generated and when conducting periodic laboratory clean-outs to maintain CESQG status.

As a CESQG of hazardous waste, ACU will implement the following practices as required by a CESQG:

1. Not store in excess of greater than 1,000 kilograms (2,200 pounds) of hazardous waste or greater than 1.0 kilogram (2.2 pounds) of acute hazardous waste at any given time; and
2. Not generate greater than 220 pounds of hazardous waste, or greater than 2.2 pounds of acute hazardous waste, in any one (1) calendar month.

By utilizing several of the practices required by a Small Quantity Generator of hazardous waste, ACU will also:

1. Use a manifest for all off-site shipments of hazardous waste (see Sections 3.3 and 7.0 of this plan);
2. Mark (label) each container of hazardous waste with appropriate labels including the words "hazardous waste" and "other words that identify the contents of the containers such as the chemical name" (see Section 5.0, and Appendix C of this plan);
3. Place the waste in appropriate containers. (see Section 5.0 of this plan);
4. Establish and document emergency preparedness procedures and contingency plans (see Section 10.0 of this plan);
5. Conduct annual training (see Section 9.0 of this plan); and
6. Perform inspections of the CAA and SAA's (see Section 6.0 and Appendix D of this plan).

Additionally, ACU is identified and operating as a Small Quantity Handler of Universal Waste (SQHUW), and as such must:

1. Store universal waste (lamps, damaged or leaking batteries, damaged or leaking mercury-containing equipment) in containers or packages that are structurally sound and adequate to prevent breakage;
2. Select containers compatible with the universal waste;
3. Ensure containers are closed except when adding or removing waste;

4. Label containers with the words "Universal Waste" and other descriptive words such as "Universal waste – lamps," "Universal Waste – batteries," or "Universal Waste – mercury containing devices;" and
5. Store waste for no more than 1 year from the date waste was first placed in the container.

3.2 EPA ID NUMBER

ACU is currently not registered, nor is it required to be, with the Texas Commission on Environmental Quality (TCEQ) or the Environmental Protection Agency (EPA) as a generator of hazardous waste. ACU is currently operating and classified as a Conditionally Exempt Small Quantity Generator of Hazardous Waste (CESQG) since it generates greater than 220 pounds of hazardous waste, or greater than 2.2 pounds of acute hazardous waste per month. TCEQ's regulations do not require EPA ID Numbers for CESQG's.

3.3 MANIFESTING

Prior to *any* off-site shipment of hazardous waste from Abilene Christian University, a hazardous waste manifest is completed and accompanies *all* off-site shipments.

The hazardous waste manifest is presented on 8½" x 11" paper and contains six (6) copies. Once the waste is loaded on the truck for shipment, the designated appointee from ACU prints and signs his/her name and dates the manifest. Prior to the waste leaving the campus, the truck driver transporting the waste must print and sign his/her name and date the manifest. ACU is to maintain one copy of the manifest at this time. The six (6) copies of the manifest are distributed as follows:

Copy 1: When the manifest is completed by the Treatment, Storage and Disposal Facility (TSDF), a copy is mailed to the State where the TSDF located.

Copy 2: When the TSDF has completed this section of the manifest, a copy is mailed to the State where the waste was generated.

Copy 3: When the TSDF has completed this section of the manifest, a copy is mailed back to ACU for their records. This copy is used to document the delivery of the waste to the designated facility.

Copy 4: When the TSDF has completed this section of the manifest, he keeps this copy for his records.

Copy 5: When the Transporter has completed his section and transfers the waste to the TSDF, he keeps this copy for his records.

Copy 6: When ACU and the Transporter have completed their sections of the manifest (including signatures) and the hazardous waste has been transferred to the vehicle, ACU keeps this copy of the manifest for their records. Note: this is the first copy of the manifest the campus receives.

When Copy 3 of the manifest is returned to ACU, it is attached to Copy 6 and any other records associated with the shipment (i.e. LDR, emergency response information, lab pack inventories, etc) and must be retained on-site for a minimum of three (3) years. The original manifest must be retained by the EHS officer.

If Copy 3 is not returned to ACU within 45 days, the campus should call the TSDF to check on the status of the waste shipment. If the manifest copy has not been returned within 60 days, ACU should notify legal counsel. As a CESQG, it is not necessary for Abilene Christian University to submit an Exception Report to TCEQ, as this is only a requirement of SQGs and LQGs in TX. Instead, the campus should make every effort to identify the fate of the waste and ensure that the waste was delivered to, and received by, the TSDF.

Those signing manifests on behalf of ACU must be trained in Department of Transportation (DOT) procedures and requirements at least every three (3) years.

Manifests are not required for the off-site disposal of used oil, regulated non-hazardous waste, or biohazardous waste. However, it is a Best Management Practice by both ACU and its vendor to utilize a manifest or Bill of Lading where appropriate to document all off-site shipments of waste materials and recycled, reclaimed, or donated materials. ACU should maintain copies of all waste disposal documents for at least three (3) years. Whereas three (3) years is the required record keeping time period, due to the liability involved with waste disposal, permanent record keeping of waste disposal documents is recommended.

3.4 LAND DISPOSAL RESTRICTIONS (LDR)

Hazardous waste that is restricted from land disposal (see 40 CFR Part 268.7(a)(4)), must comply with the following:

1. If a hazardous waste is subject to LDR and does not meet applicable treatment standards, ACU must submit a one-time written notice to each treatment, storage, or disposal facility, which receives the initial shipment of waste. This one-time notice accompanies the manifest and must include the information listed below:

    - EPA hazardous waste code(s);
    - Identification of the waste as a wastewater or non-wastewater;
    - Manifest number associated with the waste shipment;

- Waste analysis data (if available);
- For certain wastes, any additional hazardous constituents present; and
- Where hazardous debris is to be treated by an alternative technology under 40 CFR 268.45, a statement to that effect and the contaminants subject to treatment.

No additional notices are required unless the waste or receiving facility changes.

2. If the waste meets the applicable treatment standards, ACU must submit a one-time notice and signed certification stating that the waste meets the required treatment standards to each treatment, storage or disposal facility that receives the initial shipment of waste. The notice must include the items listed above and the certification, which must be signed by an authorized representative.

Records of the LDR must be retained with the copy of the waste manifest (i.e. staple the original copy of the waste manifest to the LDR statement and the returned copy of the manifest indicating successful shipment to the final disposal facility.) Typically, the hazardous waste vendor used by ACU generates the LDR. However, ACU is ultimately responsible to ensure that the LDR is completed and maintained with the manifest in University's files.

4.0 WASTE IDENTIFICATION, CHARACTERIZATION, AND ANALYSIS

4.1 HAZARDOUS WASTE

ACU has identified all known hazardous waste generated on campus by completing a department-by-department waste stream determination of all generated wastes. **Spreadsheets of the completed waste stream determinations (by department) are available in Appendix B of the official hard copy located in the Office of Risk Management, as well as in each respective department.**

When a new waste is generated at the University, a determination must be made as to whether the waste is hazardous. Faculty and staff's knowledge of the process generating the waste, any associated material safety data sheets (MSDS), and lab analyses are tools that can be used in this determination.

Solid Waste (see definition in glossary) is a hazardous waste when it is:

1. Listed (P-list, U-list, F-list, K-list);
2. Characteristic of hazardous waste (ignitable, corrosive, toxic, reactive);
3. Derived from hazardous waste; and,
4. Mixed with hazardous waste.

The P-list, U-list and F-list are available in Appendix A. The K-list is not included, as it typically does not apply to college campuses. Definitions of the characteristics of hazardous waste are found both in the Glossary of Terms as well as incorporated into Figure 1, located in Appendix A.

Figure 1, Located in Appendix A, includes a flow chart and hazardous waste determination form to aid in waste determination and analysis. This completed form is to be maintained on campus with other documentation related to hazardous waste as proof of waste determination.

4.2 UNIVERSAL, PAINT, AND PAINT-RELATED MATERIAL WASTE

According to 40 CFR 273 Subpart A, the following hazardous waste streams may be managed as Universal Waste:

- Hazardous waste batteries (40 CFR 273.2);
- Waste or recalled pesticides (40 CFR 273.3);
- Mercury containing equipment (40 CFR 273.4); and
- Universal waste lamps (i.e. fluorescent lamps, exit sign lights, street lights, and those meeting the characteristics of a hazardous waste) (40 CFR 273.5).

In Texas, Paint and Paint-Related Material (PPRM) is also included as universal waste. Under 30 TAC 335.262, PPRW is defined as:

- Used or unused paint and paint-related material which is "hazardous waste"; and
- Any mixture of pigment and a suitable liquid that forms a closely adherent coating when spread on a surface or any material that results from painting activities.

ACU generates universal waste from the following locations/operations on campus, as identified in Table 2.

Table 2: List of Universal Waste Generated at Abilene Christian University

Campus Operation/Location	Universal Waste(s) Generated
Art and Theater	PPRM, batteries
Maintenance	Spent fluorescent lamps, batteries, PPRM
Sciences	Batteries and mercury containing equipment
Print Shop	PPRM
Athletics	Batteries

PPRM – Paint and Paint Related Material

All generated universal waste on the ACU campus is shipped off-site to a regulated facility. Universal waste manifests, or other documents associated with universal waste disposal/recycling are provided for record retention by the EHS officer and copies are retained within Appendix I of this WMP. Copies should also be maintained by the generating department (See Section 3.3 of this plan for manifest information).

4.3 UNKNOWN WASTES

Occasionally, unknown wastes are generated or discovered. This may occur when a waste is generated from a new process and the waste has not yet been evaluated as to its hazards, or during inventory clean-outs when the original product label is no longer legible. Unknown waste presents a particularly dangerous threat since the hazards are not know. *Unknown waste should be treated as hazardous waste until the waste can be characterized.*

Professor or student knowledge of the process generating the waste, as well as laboratory analytical procedures, can be used to identify the waste (Refer to Figure 1 in Appendix A). Lab analysis, and the associated cost, to perform on the unknown waste may include the following:

- Flashpoint/Ignitability (approximately $50 per analysis)
- pH/Corrosivity (approximately $10 per analysis)
- TCLP Volatiles (approximately $110 per analysis)
- TCLP Semi-volatiles (approximately $160-$195 per analysis)

- TCLP Pesticides (approximately $75-$110 per analysis)
- TCLP Herbicides (approximately $105-$140 per analysis)
- TCLP Metals (approximately $65-$100 per analysis)

As with any hazardous waste, unknown waste must be labeled and stored properly. Unknown waste label templates are available in Appendix C. For proper methods for the storage of unknown wastes, refer to Section 5.0 for the storage of hazardous waste.

4.4 EMPTY CONTAINERS

Empty containers formerly containing hazardous materials may be considered hazardous waste if not managed properly. For containers that have been utilized for the storage of acute hazardous waste (P-listed waste at ACU), the container must be ***triple rinsed*** to be considered empty and no longer hazardous waste. The rinsate from this process must be collected and waste determinations performed to determine if the rinsate is hazardous. Or, the college may collect the container without triple rinsing, and thus dispose of the container itself as hazardous waste.

For non-acute hazardous waste (U-listed, some F-listed, K-listed and characteristic waste) the container is considered empty if:

- All waste has been removed that can be removed;
- Less than 1 inch of residue remains in the container; or,
- No more than 3% by weight of the total capacity of the container remains in a container sized less or equal to 110 gallons; or,
- No more than 0.3% by weight of the total capacity of the container remains in a container sized more than 110 gallons.

If containers are not "empty" per the requirements listed above, it must be treated as hazardous waste. If the containers meet the regulatory definition of empty, then the containers should be identified as "empty" to ensure proper disposal. An empty label template is provided in Appendix C.

Empty containers of raw materials or virgin chemicals become wastes when materials are emptied from such containers as reasonably attainable. When this is achieved, the waste rule as noted above applies. Empty containers containing non-hazardous waste materials may be disposed of in the general refuse provided no visible materials remain within the container.

4.5 AEROSOL CANS

An aerosol can typically becomes waste when 1) the can has lost its spray nozzle before the contents have been completely used; 2) the can runs out of propellant before the contents have been completely used; 3) the generator no longer has a

use for that product; or 4) the product has been completely used and the empty, pressurized can remains.

An aerosol can, even one in which its contents have been completely used, by itself is usually considered hazardous waste because it exhibits the characteristic of reactivity (D003) or ignitability (D001). That is, it is capable of detonation or explosive reaction if it is subjected to a strong initiating source *or it is heated under confinement.*

Each department at ACU will establish a storage area for waste aerosol cans. When the storage area is full, or at the end of each semester, a request is made with the Facilities Department to collect the accumulated waste aerosol cans, and transport them to Facilities where the cans are collected. Aerosol cans from Paint and Paint-Related Materials (PPRM) are to be disposed as universal waste. All other cans will be disposed of as hazardous waste.

Aerosol can puncturing devices may be used to completely empty aerosol cans and make them non-reactive. Punctured and drained aerosol cans meet the definition of an empty container and are exempt from management as hazardous waste. The contents of the aerosol cans must be evaluated to see if it need to be collected as hazardous waste when punctured (i.e. a flammable paint would need to be collected in a container when punctured and identified with a D001 waste code).

5.0 WASTE STORAGE

Hazardous waste and universal waste (except for batteries and used mercury containing equipment unless damaged or leaking), by regulation, must ultimately be placed in closed containers. For the purposes of ACU, the majority of hazardous waste is collected in containers, typically in small-scale laboratory bottles (1 ounce to 5 gallons), but also 5, 30 and 55-gallon drums or pales are utilized.

ACU maintains both satellite accumulation areas (SAAs) and central storage areas for the management of hazardous wastes as identified in Table 4.

Table 3: Accumulation Areas

Location of Storage Area	Area Type	Hazardous Waste Accumulated	Storage Area's Owner
Foster Science Building: Various Labs	SAA	Hazardous Wastes from sciences: laboratory chemical waste	Faculty generating waste
Foster Science Building: Science Storage Shed	Central Storage Area	Hazardous Wastes from sciences: laboratory chemical waste	Faculty generating waste
Don H. Morris Center: Various Art Studios	SAA*	Various paints and solvents	Faculty generating waste

** ACU does not generate >55 gallons of hazardous waste in any SAA, therefore there are no Central Storage Areas in these buildings.*

5.1 SATELLITE ACCUMULATION AREAS FOR HAZARDOUS WASTES

ACU maintains satellite accumulation areas (SAAs) as identified in Table 3. SAAs are not required to be inspected on a weekly basis, but periodic inspections are recommended as a Best Management Practice. Examples of the inspection logs to be performed and maintained are located in Appendix D.

Management of these SAAs includes:

- Accumulating no more than 55 gallons of hazardous waste or 1 quart of acutely hazardous waste at any one time;
- Locating the SAA at or near the point of generation (i.e. within the same laboratory or classroom);
- Controlling the containers by the operator(s) of the generating process;
- Marking the containers with the words "hazardous waste" and/or other words identifying the contents of the container (example: Hazardous Waste – Used Halogenated Organic Solvents);
- Dating and moving containers to the central storage area within 72 hours (3 days) of when the 55 gallons (1 quart) limitation is met;
- Closing containers except when adding or removing waste;

- Ensuring that all waste containers are in good condition; and
- Ensuring containers are compatible with the waste enclosed within.

Appropriate labeling of SAAs is an important component of hazardous waste compliance. Located within Appendix C, please find the approved labels to be used on all accumulated wastes stored in SAAs throughout Abilene Christian University's campus. If the satellite container is too small or oddly shaped to accommodate the labels provided, ensure that the same information is displayed by other means, such as a hang tag.

5.2 CENTRAL HAZARDOUS WASTE STORAGE AREA

As a CESQG, ACU does not have a certain number of days under which it must dispose of its hazardous waste. However, the University must be considerate of its restriction on the quantity of hazardous waste generated and stored on-site (see Section 3.0) while allowing hazardous waste to accumulate.

ACU maintains central hazardous waste storage areas, as identified in Table 3. These areas are clearly identified with signs indicating its function. The storage area is maintained according to the regulations and is inspected on at least a monthly basis. An example of the inspection form is located in Appendix D.

Management of the central hazardous waste storage area according to the BMP established in this plan includes:

- Labeling containers with the words "Hazardous Waste" and other words to identify its contents;
- Ensuring all containers are marked with an accumulation start date;
- Removing spilled or leaked waste in a timely manner;
- Posting "no smoking" signs where flammable wastes are stored;
- Maintaining adequate aisle space for inspections and movement of emergency equipment;
- Maintaining containers in good condition;
- Storing waste in compatible containers;
- Closing containers except when adding or removing waste;
- Locating ignitable or reactive waste a minimum of 50 feet from property line; and,
- Separating incompatible waste by means of a dike, wall, containment bucket, or other separation mechanism and not storing in the same container. (See Appendix F for Compatibility Chart).

5.3 UNIVERSAL WASTE STORAGE

The benefits of utilizing universal waste regulations for the management of some hazardous waste includes less stringent regulatory requirements and the ability to store the waste for longer periods of time.

ACU is currently identified and operating as a Small Quantity Handler of Universal Waste (SQHUW). Universal waste is collected in various areas around campus and consolidated at the Maintenance Facility. Example labels that may be used for collection units of universal waste are available in Appendix C.

Containers of universal waste should be closed except when adding or removing wastes. Dating the label as soon as the first item of waste is placed within the container is imperative as there is a one-year storage limit on universal wastes. For batteries or mercury devices a clipboard with an accumulation log denoting periodic additions to storage bins is a good way to track the date requirements. Used batteries and mercury-containing devices only have to be in closed containers if leaking or damaged.

6.0 WASTE STORAGE AREA INSPECTIONS

Faculty and staff of ACU perform at least monthly inspections of the satellite accumulation areas (SAAs) and central accumulation area (CAAs), also known as the central storage area. The PCB containing equipment inspections are also conducted monthly (see section 12.4 for PCB storage). These inspections are performed by one knowledgeable in the regulations pertaining to hazardous waste and who has participated in annual RCRA Hazardous Waste Training. Examples of the inspections to be completed are provided in Appendix D of this WMP. Completed inspections should be maintained for three (3) years.

At the time of the inspection of the CAA, all waste in the storage area will be accounted for on the Hazardous Waste Accumulation Log (Appendix D). The accumulation date and the quantity and type of waste will be listed on the Accumulation Log. When the waste is shipped off site for disposal, the date will be entered into the Accumulation Log. The retention of these records is critical to the University's ability to maintain CESQG status and monitor the applicable regulatory requirements.

Use of this log will provide the necessary documentation to indicate that the waste amounts indicated on a manifest was not all generated during the month the material was disposed. It should be noted that if this log is not accurately maintained to indicate when each container on the manifest was individually generated, and the manifest notes greater than 220 pounds of hazardous waste or 2.2 pounds of acute hazardous waste, CESQG status may be exceeded.

7.0 WASTE DISPOSAL

All hazardous waste that is shipped off-site is accompanied by a manifest, and as appropriate, a land disposal restriction (see Section 3.3 and 3.4). The manifest will list the names of the generator, the transporter, and the receiving facility along with their addresses, telephone numbers, and EPA ID numbers.

When shipping hazardous waste off-site, an inactive or unregistered CESQG can use EPA ID number "TXCESQG".

The generator's copy of the manifest, which has the signatures of the generator and transporter, will be retained by ACU when the waste is shipped. **Within sixty (60) days from the day the material was removed from campus, ACU should receive the final copy of the manifest, which contains the signature of the receiving facility. The original copy and the copy returned by the receiving facility are filed on-site in the ACU environmental files for three (3) years. Additional information regarding manifest management is detailed in Section 3.3 of this report.**

ACU uses an outside contractor to containerize, mark, label, manifest and ship hazardous waste, non hazardous waste, used oil, universal waste, and medical/biohazard waste. ACU understands that it is ultimately responsible for all waste generated by the University, and using a contractor does not relinquish the University of the responsibilities associated with a generator of hazardous waste.

Manifests are not required for the off-site shipments of used oil, non-hazardous waste, or biomedical waste. However, it is a best management practice for both ACU as a generator and its vendor to utilize a manifest or bill of lading where appropriate to document all off-site shipments of waste materials and recycled, reclaimed, or donated materials.

The activities of the outside contractors will be supervised and managed by the ACU EHS officer. ACU utilizes various vendors for the disposal of waste disposal hazardous waste and universal wastes. ACU sends the disposal out to bid for each event. The Office of Risk Management maintains a current listing of waste vendors and the associated contact information.

8.0 WASTE MINIMIZATION PROGRAM

Since 1984, LQGs and SQGs of hazardous have been required to certify on their hazardous waste manifests that it has a "waste minimization program." This certification reads as follows:

> *I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transportation according to applicable international and national government regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgement of Consent.*
>
> *I certify that the waste minimization statement identified in 40CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.*

EPA regulation 40 CFR 262.27 Waste Minimization Certification specifically states:

> *A generator who initiates a shipment of hazardous waste must certify to one of the following statements in Item 15 of the uniform hazardous waste manifest:*
>
> *(a) "I am a large quantity generator. I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment;" or*
>
> *(b) "I am a small quantity generator. I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford."*

Regardless of their generator status, ACU will make every effort to reduce the amount of non-hazardous, universal, medical, used oil, E-waste and hazardous waste generated on campus. This will include, but is not limited to, maintaining an inventory control system to avoid the unnecessary accumulation of chemicals.

The EPA has established guidance recommending six key elements that should be incorporated into a waste minimization program. These key elements are:

- Top management support;

- Characterization of waste generation and waste management costs;
- Periodic waste minimization assessments;
- Cost allocation system;
- Encourage Technology transfer; and
- Program implementation and evaluation.

As a Best Management Practice, ACU will practice the key elements recommended by the EPA in the following ways:

Key Element	Implementation
1. Top management support	• This Waste Management Plan was requested by and submitted to the upper management of ACU (Mr. Scot Colley, Director of Risk Management). • ACU trains appropriate employees annually on the waste generated and associated impacts resulting from the way associates conduct their work procedures.
2. Characterization of waste generation and waste management costs	• Waste is characterized according to Section 4 of this Plan. • Waste generation is accounted in the Waste Accumulation Log as described in Section 6 of this Plan. • Waste costs are maintained by the EHS Coordinator. Waste agreements and contracts are maintained in the campus-wide Environmental Files.
3. Periodic waste minimization assessments	• ACU continuously strives for process improvement and optimization to reduce waste and thus reduce costs. • ACU recycles waste when possible. Currently the campus recycles electronic wastes. • ACU maintains a Chemical Hygiene Plan that outlines chemical procurement procedures to ensure that excess chemicals are not purchased which will eventually have to be disposed.
4. Cost allocation system	• ACU maintains invoices for not only the cost to dispose of hazardous waste, but also the cost of contractors to manage their hazardous waste activities.

Key Element	Implementation
5. Encourage Technology Transfer	• ACU is a member of the Independent Colleges and Universities of Texas (ICUT). Through the foundation, ACU participates in a peer audit program where peers not only audit each other's campus, but also share best management practices, success stories, and opportunities for improvement.
6. Program implementation and evaluation	• As appropriate, opportunities to reduce waste and optimize efficiency are implemented. This element combines the principals of each of the elements listed above.

9.0 WASTE MANAGEMENT TRAINING

9.1 RCRA HAZARDOUS WASTE TRAINING

As a CESQG, ACU should ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies. As a Best Management Practice, RCRA hazardous waste training will be conducted annually for those employees who manage and/or handle hazardous waste. **A written description of the training provided along with the roster of the personnel attending the training will be maintained on site for three (3) years or the time of the individual's employment, whichever is longer. The roster of attendees includes the trainee's name and job title.**

Appendix E contains a sample roster that can be used during training. Copies of all training materials and classes completed will be maintained in the campus Environmental Files located at the Office of Risk Management.

Elements of the hazardous waste training may include:

- Hazardous waste determination;
- Manifests;
- Container labeling and securing;
- Waste storage;
- Waste inspections;
- Universal Waste;
- Other waste (medical, e-waste etc.)
- Emergency procedures;
- Emergency equipment; and
- Emergency systems.

Additionally, the Department of Transportation (DOT) requires that those preparing the waste for shipment and those signing shipping papers for hazardous waste (i.e. manifests) are trained in DOT regulations every three years.

Currently, the following individuals on campus are the only individuals authorized per DOT requirements to sign Hazardous Waste Manifest

- Scott Colley

9.2 UNIVERSAL WASTE TRAINING

A small quantity handler of universal waste must inform all employees who handle or have responsibility for managing universal waste. The information must describe proper handling and emergency procedures appropriate to the type(s) of

universal waste handled at the facility. This universal waste training material will be incorporated in the annual RCRA training.

10.0 CONTINGENCY PLAN AND PREPAREDNESS AND PREVENTION

10.1 CAMPUS OPERATIONS

The operations at ACU are conducted in a manner to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste. The Chemical Compatibility Chart (located in Appendix F) is used to ensure the proper storage of both raw materials as well as waste to ensure that the risk of fire, explosion, or release is minimized. Hazardous waste is centrally stored in the Foster Science Building: Science Storage Shed.

10.2 EMERGENCY EQUIPMENT AVAILABILITY AND MAINTENANCE

The campus is equipped with the following emergency equipment that is maintained and tested to ensure its availability in case of an emergency:

Internal Communications – Due to the complexities of a college campus, traditional internal communications such as voice paging systems are not practical. However, in some buildings, evacuation alarm bells are automatically activated when fire is detected. The alarm bells can also be activated manually at strategically located pull boxes. The emergency actions of personnel and the evacuation procedures for each building or operating area are usually set forth in the Operation Safety Procedures for each building and posted near the main entrance or fire exit or elevator

Immediate Communications – The primary method to immediately communicate an emergency is by way of email and/or text message via the "ACU Alert" system as well as a functional campus phone system that can be used to summons help both internally as well as externally. Cell phones are also available throughout campus. Dedicated resources maintain the phone system and if the system were to not operate, it would be identified immediately.

Portable fire extinguishers – Portable fire extinguishers are available throughout the campus. These are visually inspected as a part of the inspections of waste storage areas. The campus uses dry chemical fire extinguishers, which are appropriate to use on class B (flammable liquids) and C (electrical) fires.

Spill Kits – Spill kits are available throughout the campus. These are visually inspected as a part of the inspections of waste storage areas.

Location – Spill kits are maintained in the following locations:

- Foster Science Building: Science Storage Shed;
- Throughout the Foster Science Building;
- Central Plant;
- Rhoden Farm;
- Facility Maintenance;

- Through the Don Morris Center;
- Zona Luce Building; and
- University Purchasing.

Water to suppress fires – Fire hydrants are available to ensure that water in adequate volume and pressure is available to suppress a fire. These hydrants are maintained by the Abilene Fire Department. Most of the buildings were constructed prior to the building code requirements for sprinklers; however, sprinkler systems have been installed in some buildings. In addition, several types of automatic fire detectors are used throughout ACU, according to particular needs and purposes. The fire detectors will detect fire and transmit an alarm to the fire station. The fire department always dispatches fire fighters and apparatus to the scene of many automatically actuated alarms.

10.3 AISLE SPACE

Aisle space is maintained to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of the campus in an emergency. The pathway to the waste storage area is maintained free of obstruction. In the event of waste being stored in drums, drums would be staged side-by-side and not clumped together in groups in order to clearly identify the drum and its condition. As for the more commonly employed smaller containers of hazardous waste, these are stored in a manner to ensure that labels can be identified and containers accessed to determine condition and respond appropriately. Waste containers are not to be stacked more than two (2) high.

10.4 ARRANGEMENTS WITH LOCAL AUTHORITIES

The local authorities (fire department) are aware of Abilene Christian University's campus and materials stored on-site due to routine fire code inspections. ACU is serviced by the Abilene Fire and Rescue Department and the Abilene Police Department. ACU also maintains its own private police department on campus.

As a CESQG of hazardous waste, it is recommended that ACU attempt to make arrangements with local authorities (Abilene Fire and Rescue Service and the Abilene Police Department) to inform them of the hazards present on-site. As a BMP, a letter as shown in Appendix G should be mailed to these departments. Copies of the certified mail and return receipts should be kept for ACU's files.

The hospitals that service the ACU's Campus include:

Hendrick Medical Center
1900 Pine Street
Abilene, TX 79601
(325) 670-2000

Abilene Regional Medical Center
6250 US Highway 83
Abilene, TX 79606
(325) 428-1000

10.5 CONTINGENCY PLAN

10.5.1 EMERGENCY PROCEDURES

Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his/her designee), must immediately:

1. Activate internal alarms or communication systems (i.e. fire pull station) to notify all students and faculty.

2. Notify appropriate State or local agencies with designated response roles, if necessary. This would only be necessary if ACU intended to take an active role in the emergency response. It is Abilene Christian University's stance that any serious fire or spill will be handled by the professionals and not by ACU employees.

3. Whenever there is a release, fire or explosion, the emergency coordinator will immediately identify the character, exact source, amount, and area extent of any released materials. This may be achieved by visual observation or review of facility records or manifests.

4. Concurrently, possible hazards to human health and the environment must be identified. Potential exposure effects from direct or indirect exposure must be considered (e.g., toxic, irritating, or asphyxiating gases which may be potentially generated, or the effects of run-offs from water or chemicals used to control fire and heat-induced explosions. This information is readily available within a product's MSDS.

If the emergency coordinator determines that the facility has had a release, fire or explosion which could threaten human health or the environment outside the facility, he must report his findings as follows:

1. Immediately notify appropriate local authorities (see Section 10.5.2) and provide information to the applicable authorities to determine whether areas should be evacuated.

2. Immediately notify TCEQ in Austin, Texas or the National Response Center (NRC) whose contact information is provided in Section 10.5.2.

A report to the TCEQ or NRC must be prepared immediately if a release, fire or explosion has occurred, which could threaten human health or the environment outside the facility. This report must include:

- Name and contact information of Emergency Coordinator who responded to the event;
- Name and Address of facility;
- Time and type of incident (e.g., fire, release);
- Name and quantity of material(s) involved, to the extent known;
- Extent of injuries, if any; and
- The possible hazards to human health, or the environment, outside the facility.

During an emergency, the emergency coordinator must take all reasonable measures necessary to assure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste on campus. If the facility stops operation in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever appropriate. Immediately after an emergency, the emergency coordinator must provide for treating, storing, and/or disposing of recovered waste, contaminated soils or surface water, or any other material that results from a release, fire, or explosion at the facility.

The emergency coordinator must ensure that no waste that may be incompatible with the released material is treated, stored, or disposed of until all cleanup procedures are complete and all emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

A report to TCEQ or NRC must be prepared within 15 days after the incident if any release, fire or explosion has occurred at the facility. This report must include:

- Name and contact information of Emergency Coordinator who responded to the event;
- Name and Address of facility;
- Date, time and type of incident (e.g., fire, release);
- Name and quantity of material(s) involved, to the extent known;
- Extent of injuries, if any;
- An assessment of actual or potential hazards to human health, or the environment; and
- An estimated quantity and disposition of recovered material that resulted from the incident.

10.5.2 EMERGENCY COORDINATORS

At all times, there must be at least one employee either on the campus or on-call with the responsibility of directly coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, and the

facility layout. In addition, this person must have the authority to commit the resources necessary to carry out the contingency plan.

In the case of a spill or release the following ACU Staff will serve as the emergency coordinators.

Name	Office Phone	24-Hour Number
Rickey Brown (Primary Emergency Coordinator)	(325) 674-2115	(325) 518-2026
ACU Campus Police	(325) 674-2305	--

As a BMP, the emergency coordination information (see Appendix G) is posted next to the phone at in the following locations:

- **Facility Maintenance**
- **Chemistry Stock Room, Foster Science Building**
- **Biology Stock Room, Foster Science Building**

The Emergency Coordinator or Campus Police will contact additional resources from the campus as necessary.

Outside resources to contact in case of an emergency include:

Authority	Phone Number
Abilene Police Department	911 or (325) 673-8331
Abilene Fire and Rescue Department	911 or (325) 690-6723
Texas Commission on Environmental Quality	(800) 687-4040
National Response Center (NRC)	(800) 424-8802
Hendrick Medical Center	(325) 670-2000
Abilene Regional Medical Center	(325) 428-1000
Cleanup Contractor: Safety Kleen	1-888-ER-KLEEN (888) 375-5336

10.5.3 EVACUATION PLAN

1. Building Evacuations

a. All buildings will be evacuated immediately when an alarm sounds and/or upon notification by responsible authorities and in the residence halls by the residence hall director or resident assistant. Follow the building evacuation plan that is posted in each building.

b. When the building evacuation alarm is sounded or evacuation orders are issued, leave the building in a calm, orderly manner via the nearest exit and alert others to do the same.

c. ASSIST THE HANDICAPPED IN EXITING THE BUILDING! Once outside, proceed to a clear area that is at least 500 feet away from the affected building. Keep streets, fire lanes, hydrant areas and walkways clear for emergency vehicles and personnel. Know your assembly points and familiarize yourself with evacuation plans posted in your building.

d. Do not return to an evacuated building unless told to do so by a college official.

e. A Campus Emergency Command Post may be set up near the emergency site. Keep clear of the command post, unless you have official business.

f. Take the roster of individuals who occupy the building and report to the command post that all are accounted for and all is clear.

IMPORTANT: After any evacuation, report to your designated assembly area. Stay there until an accurate head count is taken.

2. Campus Evacuation

a. Evacuation of all or part of the campus will be announced.

b. All persons (students, faculty, staff and visitors) are to immediately vacate the site in question and relocate to another part of the campus or off campus as directed.

11.0 HAZARDOUS WASTE REPORTING

11.1 EXPORT NOTIFICATIONS

ACU does not export hazardous waste.

11.2 EXCEPTION REPORTS

As a CESQG, ACU is not required to submit exemption reports.

11.3 SPECIFIC REPORTS

As a CESQG, ACU is not required to submit specific reports.

Texas allows a one-time waste clean out program under which ACU would need to request a temporary ID number. Temporary numbers may be requested by downloading the "Request for Texas Waste Code Form" (TCEQ form 0757) from www.tceq.state.tx.us/goto/forms and faxing it to 512-239-6410. Instructions and phone numbers are included in the download.

If ACU begins routinely generating hazardous waste over the CESQG above-stated amounts, the University must send TCEQ the Initial Notification Package to register a new facility. The Initial Notification Package consists of the Core Data Form (TCEQ-10400), the Notification for Hazardous or Industrial Waste Management Form (TCEQ-00002), and the Notification of Regulated Waste Activity Form (EPA-8700-12). Forms can be downloaded from the TCEQ Web site at www.tceq.state.tx.us/goto/forms .

12.0 **OTHER WASTES**

12.1 USED OIL

Used Oil is defined as *any oil that has been refined from crude, or any synthetic oil, that has been used and as a result of such use is contaminated by physical or chemical impurities*. Used oil that is <u>*recycled*</u> is regulated under 40 CFR Part 279. Used oil under this regulation does *not* include antifreeze, kerosene, vegetable oil, animal oil, kitchen grease, and petroleum distillates.

Used oil may be considered hazardous waste and must be managed in accordance with the previous sections of this plan if:

- The used oil has been mixed with a listed hazardous waste;
- The used oil has been mixed with a characteristic hazardous waste and still meets the characteristics of the hazard; and
- Contains greater than 1,000 ppm (0.1%) of total halogens and the presumption of being mixed with a listed hazardous waste cannot be rebutted.

<u>GENERAL REQUIREMENTS FOR USED OIL:</u>

1) Storage: Used oil must be stored in containers or tanks that are in good condition and not leaking.
2) Labeling: Containers and any associated fill pipes must be labeled with the words "USED OIL."
3) Response to release: Upon detection of a release of oil, a facility must:
    a) Stop the release;
    b) Contain the released oil;
    c) Clean up and manage properly released oil and associated cleaning and absorbing materials; and
    d) Repair or replace any leaking oil storage container or tanks prior to returning them to service.

<u>USED OIL GENERATED AT ACU:</u>

Used oil generated at ACU includes lubricating oil, hydraulic fluid, compressor oil, mineral oil, coolants, cutting oils and metal working fluid resulting from maintenance activities associated with boilers, compressors, and elevators as well as vehicles. The additional requirements for facilities that burn used oil in space heaters do not apply since ACU currently does not burn used oil in on-site oil-fired space heaters. ACU follows all the requirements listed above and consolidates all used oil at the Facility Maintenance. The University uses a used oil vendor for the disposal/recycling of its used oil:

Safety Kleen
4234 Oil Belt Lane Abilene, TX 79605
(325) 692-7589

12.2 MEDICAL WASTE (BIOHAZARDOUS WASTE)

The TCEQ defines medical waste as being one of the following:

- Animal waste from animals intentionally exposed to pathogens;
- Bulk human blood and blood products;
- Pathological waste;
- Microbiological waste; or
- Sharps.

Certain categories of medical waste may not be disposed of in sanitary landfills or may be disposed of only after the waste has been treated or packaged in certain ways:

- Sharps must be securely packaged in puncture-proof containers prior to landfilling;
- Cultures and stocks of infectious agents and associated biologicals must not be landfilled unless and until they have been treated (e.g., autoclaved, incinerated) to render them non-infectious;
- Human blood and blood products and other body fluids may not be landfilled. This restriction applies to bulk liquids or wastes containing substantive amounts of free liquids, but does not apply to simply blood - contaminated materials such as emptied blood bags, bandages, or "dirty" linens; and
- Recognizable human organs and body parts may not be landfilled.

GENERAL REQUIREMENTS FOR MEDICAL WASTE:

1) Mixing: Medical waste must not be mixed with other wastes.
2) Storage: Medical wastes must be stored in a manner and location as to minimize exposure to the public; protected from animals, wind and rain; and as to not provide a food source for insects and rodents.
3) Sharps Storage and Labeling: Sharps must be stored in rigid containers identified with either the words "medical waste," "biohazard," or "infectious" and/or the universal symbol for biohazard (☣). These containers are to remain closed except when adding or removing wastes.
4) Medical Waste (other than sharps) Storage and Labeling: Medical waste must be placed in containers which are impervious to moisture and have the strength sufficient to preclude ripping, tearing or bursting under normal conditions. These containers remain closed except when adding or removing waste. Additionally, these containers are to be labeled clearly with either the words "Medical Waste," "Bio-hazardous," or "Infectious" and/or contain the universal symbol for biohazard (☣).
5) Bagged Medical Waste Disposal: Biological wastes and Petri dishes may be autoclaved on-site and then disposed in the general trash.
6) On-Site Medical Waste Treatment:

a) A generator of medical waste that treats all or part of the wastes on-site in quantities of 50 pounds or less per calendar month shall maintain a written record that, at a minimum, contains the following information:

- the date of treatment;
- the method/conditions of treatment;
- the amount of waste treated;
- the name (printed) and initials of the person(s) performing treatment; and
- if applicable, name, address, telephone number, and registration number of the entity providing treatment.

b) If more than 50 pounds of medical wastes are treated on-site per calendar month, additional requirements apply. In addition to the items above, these facilities must also have a written procedure for the operation and testing of any equipment used, a written procedure for the preparation of any chemicals used in treatment, and performance testing.

c) **All treatment facilities are also required notify the TCEQ of the operation of an approved treatment process unit used only for the treatment of on-site generated medical waste.** A sample letter has been included in Appendix O of the WMP.

7) Off-Site Medical Waste Disposal:

a) Generators of medical waste that ship their waste off-site for treatment are required to:

- Properly package and label it as specified in 30 TAC 330.1207(c).
- List the weight of each medical-waste container (using general use scales) on the generator label as specified in 30 TAC 330.1207(c)(5)—prior to transportation off-site—in order to allow for its complete tracking.
- Place bags containing medical waste in a rigid container that is leak resistant, impervious to moisture, strong enough to prevent tearing and bursting under normal use and handling, and sealed to prevent leakage or as otherwise required by the U.S. Department of Transportation under 49 CFR 173.134. Cardboard boxes that are designed for medical waste and conform to 49 CFR 173.134 is acceptable to use for medical waste.
- Obtain a signed shipping receipt from a registered transporter, maintain records of all shipments of untreated medical waste

sent off-site for three years, and make the records available for inspection by the TCEQ.

- Obtain a receipt from the medical-waste treatment facility certifying that the waste has been properly treated and must also maintain these records.

MEDICAL WASTES GENERATED AT ACU:

ACU generates medical waste (sharps, bagged medical waste) from various laboratories located in the Foster Science Building (biology labs), Teague Special Events Center (athletic trainers) and Royce & Pam Money Student Recreation and Wellness Center, ACU Medical Care Center (health services). Medical waste storage, labeling, treatment and disposal practices at ACU are conducted in accordance with regulatory requirements listed above.

Most medical laboratory waste is periodically treated by sterilization in an autoclave. Written records are maintained in the area of treatment, which documents each sterilization event. A sample log is provided in Appendix D of this plan.

12.3 ASBESTOS CONTAINING MATERIAL

ACU personnel are not licensed or accredited to conduct an asbestos survey, nor are ACU personnel licensed or certified to remove asbestos containing materials (ACM). As required under the National Emission Standards for Hazardous Air Pollution (NESHAP) Standards, in the event demolition or renovation activities are conducted at the ACU campus, ACU is required to conduct an asbestos survey prior to these activities to identify any ACM in the work area.

In the event ACM is identified in a proposed work area by a licensed or accredited Asbestos Inspector, ACU must comply with all appropriate removal and notification requirements. ACU should request copies of all contractors licenses as well as a copy of the final report to include a waste manifest documenting the proper disposal of the ACM to an approved disposal facility. Pertinent copies should be permanently retained within the campus Environmental Files. Under no circumstances should ACU store waste materials associated with the abatement or removal of ACM.

12.4 POLYCHLORINATED BIPHENYL (PCB) WASTE

According to 40 CFR 761, all persons who manufacture, process, distribute in commerce, use, or dispose of PCBs or PCB items are subject to requirements for disposal and labeling of PCB containing equipment. The most common PBC containing equipment found on campuses include but are not limited to dielectric fluids located within transformers and in the capacitor of florescent lamp ballasts.

GENERAL REQUIREMENTS FOR PCB WASTES:

A facility that owns PCB containing equipment must comply with the following requirements:

1) Storage Labeling: Each storage area used to store PCBs and PCB Items for disposal shall be marked as illustrated in Figure 1 in 40 CFR 761.45(a) as shown below.

2) Dated Records: PCB Items shall be dated on the item when they are removed from service for disposal. The storage shall be managed so that the PCB Items can be located by this date.
3) Disposal: Any PCB waste shall be disposed of within 1-year from the date it was determined to be PCB waste and the decision was made to dispose of it.
4) Inspection: All PCB Items in storage shall be checked for leaks at least once every 30 days. Any leaking PCB Items and their contents shall be transferred immediately to properly marked, non-leaking containers. Any spilled or leaked materials shall be immediately cleaned up and the materials and residues containing PCBs shall be disposed of in accordance with 40 CFR 761.61.
5) Documentation: Records of inspections, maintenance, cleanup and disposal must be maintained in accordance with 40 CFR 761.180(a) and (b).

PCB WASTES GENERATED AT ACU:

ACU does not own the transformers located on-site; however, the University does have florescent light ballasts throughout the facility. These ballasts on-site are evaluated for the potential PCB content based on the guidance given in 40 CFR 761.2. If the ballast is marked "non-PCB" it may be either recycled or disposed in the general trash. If the ballast is not marked "non-PCB it is assumed to be PCB containing. Once the PCB content has been determined, ACU follows the proper labeling and storage requirements listed above. All generated PCB waste on the ACU campus is shipped off-site to a regulated facility. Waste manifests are provided for record retention by the EHS officer within Appendix M of this WMP, with copies maintained by the generating department.

12.5 E-WASTE

E-waste is a general category for electronic products facing displacement or replacement that are hazardous due to the toxic metals present within their internal materials, coatings and glass. E-waste may include personal computers, monitors, televisions, keyboards printers, telephones, typewriters, calculators, copiers, fax machines and audio equipment. There are commodities worth capturing in E-waste plus there are traditionally toxic materials in electronics that should be kept out of the environment and properly managed.

GENERAL REQUIREMENTS FOR E-WASTES:

A waste stream determination should be completed for e-waste to determine if it should be considered a regulated hazardous waste. Based on the outcome of the waste stream determination, the waste must be handled and disposed as deemed appropriate. Generators of e-waste also have the option of utilizing reclamation and recycling vendors to manage their e-waste.

E-WASTES GENERATED AT ACU:

E-waste generated at ACU includes but is not limited to personal computers, monitors, televisions, keyboards printers, telephones, and other office equipment. The ACU Information Technology Department (IT) holds an annual auction open to the students and the community to auction refurbished and non-operational e-waste.

Detailed documentation is maintained regarding each auction lot sold. These documents indicate a description of the lot, the date of the auction, and a signed agreement that the purchased lot must be taken off ACU campus.

12.6 SPECIAL WASTE

Special waste is any solid waste that requires special handling and disposal because of its quantity, concentration, physical or chemical characteristics, or biological properties. These include:

- Municipal hazardous waste from conditionally exempt small-quantity generators may be accepted at a Type I or Type IAE landfill provided the amount of waste does not exceed 220 lb (100 kg) per month per generator;
- Municipal wastewater treatment plant sludges, other types of domestic sewage treatment plant sludges, and water-supply treatment plant sludges;
- Liquid wastes from municipal sources that are treated or processed to eliminate free liquids and tested in accordance with 30 TAC 330.171(c)(7);
- Grease-trap and grit-trap wastes;
- Slaughterhouse wastes;
- Dead animals;

- Empty pesticide (insecticide, herbicide, fungicide, or rodenticide) containers that have been triple rinsed and rendered unusable; and
- Certain discarded materials containing asbestos as detailed in 30 TAC 330.171(c)(3) and (4). Regulated asbestos-containing material may be accepted for disposal at a Type I or Type IAE landfill. Non-regulated asbestos-containing materials (non-RACM) may be accepted for disposal at a Type I, Type IAE, Type IV, or Type IVAE landfill.

SPECIAL WASTES GENERATED AT ACU:

Special wastes that could be generated at ACU include but are not limited to periodic animal carcasses from laboratory dissections, grease trap wastes, and potential ACM. None of these wastes require prior authorization for disposal as long as the MSW landfill or recycling facility is authorized to accept the specific wastes. Special wastes should be managed and transported to contain odor and then covered immediately at an MSW landfill.

APPENDIX A

Figure 1: Waste Stream Determination and Analysis Flow Chart
F-List
P-List
U-List

HAZARDOUS WASTE DETERMINATION FORM

Hazardous Waste Determination Form #:

A. WASTE DESCRIPTION:

Generation Process:

Generation Location:	**Total Quantity and/or Estimated Generation Rate:**

B. WASTE PROPERTIES, CHARACTERISTICS, and CONSTITUENTS:

Physical State:
- ☐ Solid
- ☐ Solid w/freestanding or absorbed liquid
- ☐ Liquid (If liquid, indicate if the liquid is:
  - ☐ Single-Layer
  - ☐ Multi-Layer
- ☐ Gas

pH:
- ☐ ≤ 2
- ☐ > 2 but < 12.5
- ☐ N/A
- ☐ ≥ 12.5

Flashpoint:
- ☐ < 140 °F
- ☐ > 140°F but < 200 °F
- ☐ N/A
- ☐ > 200 °F

Characteristics:
- ☐ Corrosive
- ☐ Ignitable
- ☐ Reactive
- ☐ Radioactive
- ☐ Toxic
- ☐ None

PCB Content:
- ☐ > 5 ppm
- ☐ < 5 ppm
- ☐ None

Listed:
- ☐ P or U-list (DCC only**)
- ☐ K-list
- ☐ F-list ☐ N/A

**DCC – discarded commercial chemical products

Metal Content:
- ☐ Antimony*
- ☐ Arsenic
- ☐ Barium
- ☐ Beryllium*
- ☐ Cadmium
- ☐ Chromium
- ☐ Cobalt*
- ☐ Copper*
- ☐ Lead
- ☐ Mercury
- ☐ Molybdenum*
- ☐ Nickel*
- ☐ Selenium
- ☐ Silver
- ☐ Thallium*
- ☐ Vanadium*
- ☐ Zinc*
- ☐ None

☐ *Check these metals (or metal compounds) only if they are in a friable, powdered, or finely divided state.

Composition (list all hazardous constituents):

Constituent:	Volume % (range):	Constituent:	Volume % (range):

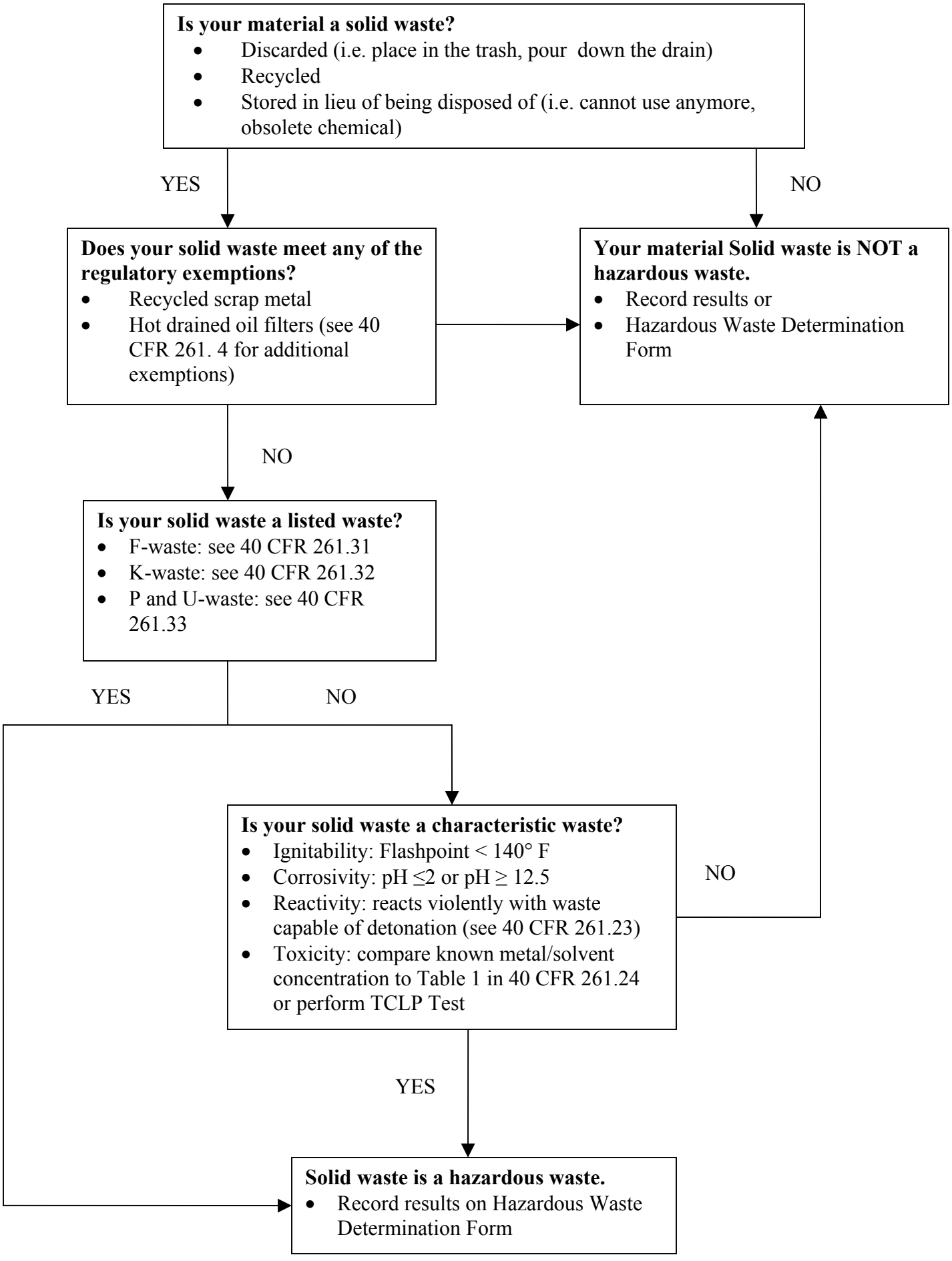
C. REMARKS (Attach all applicable documentation describing the waste (e.g. process knowledge statement, MSDS, sample analysis, etc.):

D. FINAL DETERMINATION:

☐ Hazardous ☐ Non-hazardous ☐ Medical Waste ☐ Universal Waste ☐ Used Oil ☐ Prohibited by POTW

COMPLETED BY:	DEPARTMENT:	CONTACT No.:	DATE:

HAZARDOUS WASTE DETERMINATION FLOW CHART



§ 261.31 Hazardous wastes from non-specific sources.

(a) The following solid wastes are listed hazardous wastes from non-specific sources unless they are excluded under §§260.20 and 260.22 and listed in appendix IX.

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
F001	The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures	(T)
F002	The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures	(T)
F003	The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures	(I)*
F004	The following spent non-halogenated solvents: Cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures	(T)
F005	The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; 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)

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
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. Wastewater treatment sludges from the manufacturing of motor vehicles using a zinc phosphating process will not be subject to this listing at the point of generation if the wastes are not placed outside on the land prior to shipment to a landfill for disposal and are either: disposed in a Subtitle D municipal or industrial landfill unit that is equipped with a single clay liner and is permitted, licensed or otherwise authorized by the state; or disposed in a landfill unit subject to, or otherwise meeting, the landfill requirements in §258.40, §264.301 or §265.301. For the purposes of this listing, motor vehicle manufacturing is defined in paragraph (b)(4)(i) of this section and (b)(4)(ii) of this section describes the recordkeeping requirements for motor vehicle manufacturing facilities	(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 carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution	(T)
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 sythesized 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)

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
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	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.	(T)
F038	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	(T)
F039	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.)	(T)

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

(e) The commercial chemical products, manufacturing chemical intermediates or off-specification commercial chemical products 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 the small quantity exclusion defined in §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. Wastes are first listed in alphabetical order by substance and then listed again in numerical order by Hazardous Waste Number.]

These wastes and their corresponding EPA Hazardous Waste Numbers are:

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_3AsO_4
P012	1327–53–3	Arsenic oxide As_2O_3
P011	1303–28–2	Arsenic oxide As_2O_5
P011	1303–28–2	Arsenic pentoxide
P012	1327–53–3	Arsenic trioxide
P038	692–42–2	Arsine, diethyl-
P036	696–28–6	Arsonous dichloride, phenyl-
P054	151–56–4	Aziridine
P067	75–55–8	Aziridine, 2-methyl-
P013	542–62–1	Barium cyanide
P024	106–47–8	Benzenamine, 4-chloro-

Hazardous waste No.	Chemical abstracts No.	Substance
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	[1]81–81–2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%
P028	100–44–7	Benzyl chloride
P015	7440–41–7	Beryllium powder
P017	598–31–2	Bromoacetone
P018	357–57–3	Brucine
P045	39196–18–4	2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[(methylamino)carbonyl] oxime
P021	592–01–8	Calcium cyanide
P021	592–01–8	Calcium cyanide $Ca(CN)_2$
P189	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

Hazardous waste No.	Chemical abstracts No.	Substance
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	[1]72–20–8	2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (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	[1]534–52–1	4,6-Dinitro-o-cresol, & salts
P048	51–28–5	2,4-Dinitrophenol
P020	88–85–7	Dinoseb
P085	152–16–9	Diphosphoramide, octamethyl-
P111	107–49–3	Diphosphoric acid, tetraethyl ester
P039	298–04–4	Disulfoton
P049	541–53–7	Dithiobiuret
P185	26419–73–8	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O- [(methylamino)- carbonyl]oxime.
P050	115–29–7	Endosulfan
P088	145–73–3	Endothall
P051	72–20–8	Endrin
P051	72–20–8	Endrin, & metabolites
P042	51–43–4	Epinephrine
P031	460–19–5	Ethanedinitrile
P194	23135–22–0	Ethanimidothioic acid, 2-(dimethylamino)-N-[[(methylamino) carbonyl]oxy]-2-oxo-, methyl ester.

Hazardous waste No.	Chemical abstracts No.	Substance
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(dimethylcarbamodithioato-S,S′)-,
P196	15339–36–3	Manganese dimethyldithiocarbamate.
P092	62–38–4	Mercury, (acetato-O)phenyl-
P065	628–86–4	Mercury fulminate (R,T)
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

Hazardous waste No.	Chemical abstracts No.	Substance
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-Methyllactonitrile
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 $Ni(CO)_4$, (T-4)-
P074	557–19–7	Nickel cyanide
P074	557–19–7	Nickel cyanide $Ni(CN)_2$
P075	[1]54–11–5	Nicotine, & salts
P076	10102–43–9	Nitric oxide
P077	100–01–6	p-Nitroaniline
P078	10102–44–0	Nitrogen dioxide
P076	10102–43–9	Nitrogen oxide NO
P078	10102–44–0	Nitrogen oxide NO_2
P081	55–63–0	Nitroglycerine (R)
P082	62–75–9	N-Nitrosodimethylamine
P084	4549–40–0	N-Nitrosomethylvinylamine
P085	152–16–9	Octamethylpyrophosphoramide
P087	20816–12–0	Osmium oxide OsO_4, (T-4)-
P087	20816–12–0	Osmium tetroxide
P088	145–73–3	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P194	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	[1]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)

Hazardous waste No.	Chemical abstracts No.	Substance
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-

Hazardous waste No.	Chemical abstracts No.	Substance
P102	107–19–7	Propargyl alcohol
P003	107–02–8	2-Propenal
P005	107–18–6	2-Propen-1-ol
P067	75–55–8	1,2-Propylenimine
P102	107–19–7	2-Propyn-1-ol
P008	504–24–5	4-Pyridinamine
P075	[1]54–11–5	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts
P204	57–47–6	Pyrrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)-.
P114	12039–52–0	Selenious acid, dithallium(1+) salt
P103	630–10–4	Selenourea
P104	506–64–9	Silver cyanide
P104	506–64–9	Silver cyanide Ag(CN)
P105	26628–22–8	Sodium azide
P106	143–33–9	Sodium cyanide
P106	143–33–9	Sodium cyanide Na(CN)
P108	[1]57–24–9	Strychnidin-10-one, & salts
P018	357–57–3	Strychnidin-10-one, 2,3-dimethoxy-
P108	[1]57–24–9	Strychnine, & salts
P115	7446–18–6	Sulfuric acid, dithallium(1+) salt
P109	3689–24–5	Tetraethyldithiopyrophosphate
P110	78–00–2	Tetraethyl lead
P111	107–49–3	Tetraethyl pyrophosphate
P112	509–14–8	Tetranitromethane (R)
P062	757–58–4	Tetraphosphoric acid, hexaethyl ester
P113	1314–32–5	Thallic oxide
P113	1314–32–5	Thallium oxide Tl_2O_3
P114	12039–52–0	Thallium(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 $[(H_2N)C(S)]_2NH$
P014	108–98–5	Thiophenol
P116	79–19–6	Thiosemicarbazide
P026	5344–82–1	Thiourea, (2-chlorophenyl)-

Hazardous waste No.	Chemical abstracts No.	Substance
P072	86–88–4	Thiourea, 1-naphthalenyl-
P093	103–85–5	Thiourea, phenyl-
P185	26419–73–8	Tirpate.
P123	8001–35–2	Toxaphene
P118	75–70–7	Trichloromethanethiol
P119	7803–55–6	Vanadic acid, ammonium salt
P120	1314–62–1	Vanadium oxide V_2O_5
P120	1314–62–1	Vanadium pentoxide
P084	4549–40–0	Vinylamine, N-methyl-N-nitroso-
P001	[1]81–81–2	Warfarin, & salts, when present at concentrations greater than 0.3%
P205	137–30–4	Zinc, bis(dimethylcarbamodithioato-S,S′)-,
P121	557–21–1	Zinc cyanide
P121	557–21–1	Zinc cyanide $Zn(CN)_2$
P122	1314–84–7	Zinc phosphide Zn_3P_2, when present at concentrations greater than 10% (R,T)
P205	137–30–4	Ziram.

[1]CAS Number given for parent compound only.

(f) The commercial chemical products, manufacturing chemical intermediates, or off-specification commercial chemical products referred to in 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 §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. Wastes are first listed in alphabetical order by substance and then listed again in numerical order by Hazardous Waste Number.]

These wastes and their corresponding EPA Hazardous Waste Numbers are:

Hazardous waste No.	Chemical abstracts No.	Substance
U394	30558–43–1	A2213.
U001	75–07–0	Acetaldehyde (I)
U034	75–87–6	Acetaldehyde, trichloro-
U187	62–44–2	Acetamide, N-(4-ethoxyphenyl)-
U005	53–96–3	Acetamide, N-9H-fluoren-2-yl-
U240	[1]94–75–7	Acetic acid, (2,4-dichlorophenoxy)-, salts & esters
U112	141–78–6	Acetic acid ethyl ester (I)
U144	301–04–2	Acetic acid, lead(2+) salt
U214	563–68–8	Acetic acid, thallium(1+) salt
see F027	93–76–5	Acetic acid, (2,4,5-trichlorophenoxy)-

Hazardous waste No.	Chemical abstracts No.	Substance
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

Hazardous waste No.	Chemical abstracts No.	Substance
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-

Hazardous waste No.	Chemical abstracts No.	Substance
U247	72–43–5	Benzene, 1,1′-(2,2,2-trichloroethylidene)bis[4- methoxy-
U023	98–07–7	Benzene, (trichloromethyl)-
U234	99–35–4	Benzene, 1,3,5-trinitro-
U021	92–87–5	Benzidine
U202	[1]81–07–2	1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts
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[rst]pentaphene
U248	[1]81–81–2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, & salts, when present at concentrations of 0.3% or less
U022	50–32–8	Benzo[a]pyrene
U197	106–51–4	p-Benzoquinone
U023	98–07–7	Benzotrichloride (C,R,T)
U085	1464–53–5	2,2′-Bioxirane
U021	92–87–5	[1,1′-Biphenyl]-4,4′-diamine
U073	91–94–1	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dichloro-
U091	119–90–4	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dimethoxy-
U095	119–93–7	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dimethyl-
U225	75–25–2	Bromoform
U030	101–55–3	4-Bromophenyl phenyl ether
U128	87–68–3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U172	924–16–3	1-Butanamine, N-butyl-N-nitroso-
U031	71–36–3	1-Butanol (I)
U159	78–93–3	2-Butanone (I,T)
U160	1338–23–4	2-Butanone, peroxide (R,T)
U053	4170–30–3	2-Butenal
U074	764–41–0	2-Butene, 1,4-dichloro- (I,T)

Hazardous waste No.	Chemical abstracts No.	Substance
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	[1]111–54–6	Carbamodithioic acid, 1,2-ethanediylbis-, 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

Hazardous waste No.	Chemical abstracts No.	Substance
U039	59–50–7	p-Chloro-m-cresol
U042	110–75–8	2-Chloroethyl vinyl ether
U044	67–66–3	Chloroform
U046	107–30–2	Chloromethyl methyl ether
U047	91–58–7	beta-Chloronaphthalene
U048	95–57–8	o-Chlorophenol
U049	3165–93–3	4-Chloro-o-toluidine, hydrochloride
U032	13765–19–0	Chromic acid H_2CrO_4, calcium salt
U050	218–01–9	Chrysene
U051		Creosote
U052	1319–77–3	Cresol (Cresylic acid)
U053	4170–30–3	Crotonaldehyde
U055	98–82–8	Cumene (I)
U246	506–68–3	Cyanogen bromide (CN)Br
U197	106–51–4	2,5-Cyclohexadiene-1,4-dione
U056	110–82–7	Cyclohexane (I)
U129	58–89–9	Cyclohexane, 1,2,3,4,5,6-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	[1]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

Hazardous waste No.	Chemical abstracts No.	Substance
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

Hazardous waste No.	Chemical abstracts No.	Substance
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-

Hazardous waste No.	Chemical abstracts No.	Substance
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	[1]111–54–6	Ethylenebisdithiocarbamic acid, salts & esters
U067	106–93–4	Ethylene dibromide
U077	107–06–2	Ethylene dichloride
U359	110–80–5	Ethylene glycol monoethyl ether
U115	75–21–8	Ethylene oxide (I,T)
U116	96–45–7	Ethylenethiourea
U076	75–34–3	Ethylidene dichloride
U118	97–63–2	Ethyl methacrylate
U119	62–50–0	Ethyl methanesulfonate
U120	206–44–0	Fluoranthene
U122	50–00–0	Formaldehyde
U123	64–18–6	Formic acid (C,T)
U124	110–00–9	Furan (I)
U125	98–01–1	2-Furancarboxaldehyde (I)
U147	108–31–6	2,5-Furandione
U213	109–99–9	Furan, tetrahydro-(I)
U125	98–01–1	Furfural (I)
U124	110–00–9	Furfuran (I)
U206	18883–66–4	Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-, D-
U206	18883–66–4	D-Glucose, 2-deoxy-2-[[(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

Hazardous waste No.	Chemical abstracts No.	Substance
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_2S
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)

Hazardous waste No.	Chemical abstracts No.	Substance
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)

Hazardous waste No.	Chemical abstracts No.	Substance
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)

Hazardous waste No.	Chemical abstracts No.	Substance
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

Hazardous waste No.	Chemical abstracts No.	Substance
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-

Hazardous waste No.	Chemical abstracts No.	Substance
U180	930–55–2	Pyrrolidine, 1-nitroso-
U200	50–55–5	Reserpine
U201	108–46–3	Resorcinol
U202	[1]81–07–2	Saccharin, & salts
U203	94–59–7	Safrole
U204	7783–00–8	Selenious acid
U204	7783–00–8	Selenium dioxide
U205	7488–56–4	Selenium sulfide
U205	7488–56–4	Selenium sulfide SeS_2(R,T)
U015	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 $[(H_2N)C(S)]_2S_2$, tetramethyl-
U409	23564–05–8	Thiophanate-methyl.
U219	62–56–6	Thiourea
U244	137–26–8	Thiram

Hazardous waste No.	Chemical abstracts No.	Substance
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	[1]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_3P_2, when present at concentrations of 10% or less

§ 261.24 Toxicity characteristic.

Table 1 —Maximum Concentration of Contaminants for the Toxicity Characteristic

EPA HW No.[1]	Contaminant	CAS No.[2]	Regulatory Level (mg/L)
D004	Arsenic	7440–38–2	5.0
D005	Barium	7440–39–3	100.0
D018	Benzene	71–43–2	0.5
D006	Cadmium	7440–43–9	1.0
D019	Carbon tetrachloride	56–23–5	0.5
D020	Chlordane	57–74–9	0.03
D021	Chlorobenzene	108–90–7	100.0
D022	Chloroform	67–66–3	6.0
D007	Chromium	7440–47–3	5.0
D023	o-Cresol	95–48–7	[4]200.0
D024	m-Cresol	108–39–4	[4]200.0
D025	p-Cresol	106–44–5	[4]200.0
D026	Cresol		[4]200.0
D016	2,4-D	94–75–7	10.0
D027	1,4-Dichlorobenzene	106–46–7	7.5
D028	1,2-Dichloroethane	107–06–2	0.5
D029	1,1-Dichloroethylene	75–35–4	0.7
D030	2,4-Dinitrotoluene	121–14–2	[3]0.13
D012	Endrin	72–20–8	0.02
D031	Heptachlor (and its epoxide)	76–44–8	0.008
D032	Hexachlorobenzene	118–74–1	[3]0.13
D033	Hexachlorobutadiene	87–68–3	0.5
D034	Hexachloroethane	67–72–1	3.0
D008	Lead	7439–92–1	5.0
D013	Lindane	58–89–9	0.4
D009	Mercury	7439–97–6	0.2
D014	Methoxychlor	72–43–5	10.0
D035	Methyl ethyl ketone	78–93–3	200.0
D036	Nitrobenzene	98–95–3	2.0
D037	Pentrachlorophenol	87–86–5	100.0
D038	Pyridine	110–86–1	[3]5.0
D010	Selenium	7782–49–2	1.0
D011	Silver	7440–22–4	5.0
D039	Tetrachloroethylene	127–18–4	0.7
D015	Toxaphene	8001–35–2	0.5
D040	Trichloroethylene	79–01–6	0.5
D041	2,4,5-Trichlorophenol	95–95–4	400.0
D042	2,4,6-Trichlorophenol	88–06–2	2.0
D017	2,4,5-TP (Silvex)	93–72–1	1.0
D043	Vinyl chloride	75–01–4	0.2

[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.

APPENDIX B

WASTE STREAM DETERMINATION SHEETS

APPENDIX C

WASTE LABEL EXAMPLES

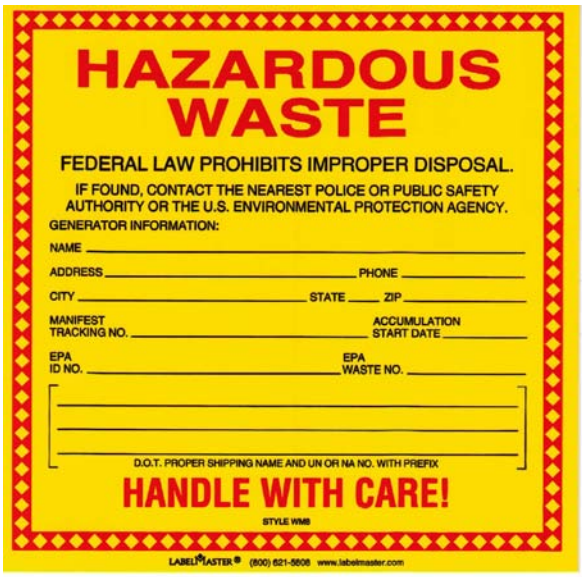
Example of blank and completed Universal Waste Label
Example of blank and completed Non-Hazardous Waste Label
Example of blank and completed Central Accumulation Area (CAA) Label and Template
Example of other Commonly Used Labels

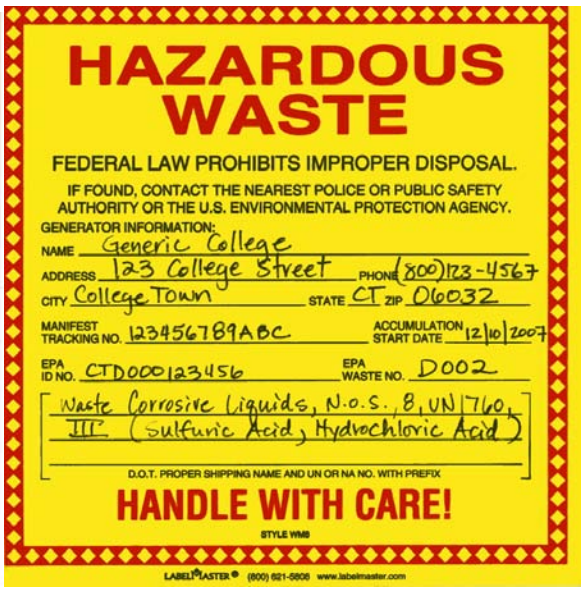
(All labels are formatted to use with Universal Laser Printer Labels, 80108)
CAA/SAA Label Template
Unknown Waste Label Template
Empty Container Label Template
Biohazardous Waste Label Template
Universal Waste Label Template

Example of blank and completed Universal Waste Label

Example of blank and completed Non-Hazardous Waste Label

Example of blank and completed CAA and Template



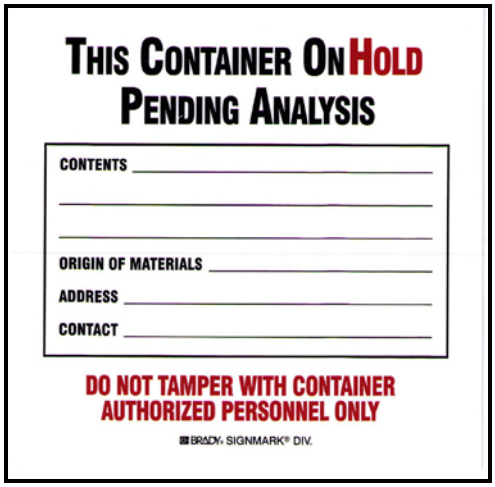


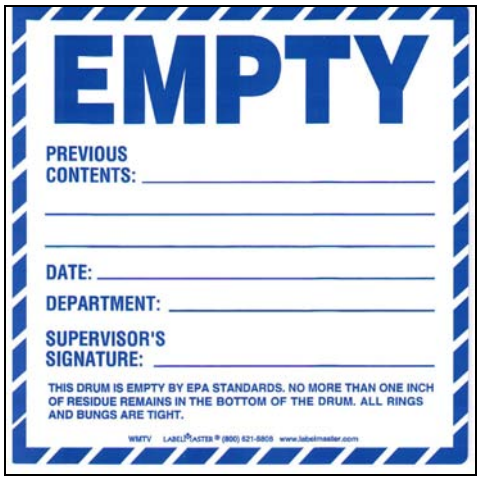
EPA I.D. Number:

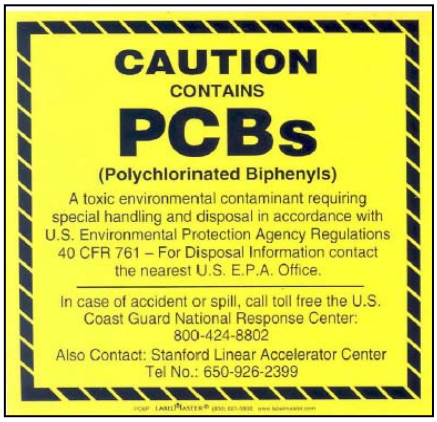
Campus	EPA ID Number
Abilene Christian University	TX CESQ

Manifest Document No.: As listed on the manifest for the shipment, will be alphanumerical number consisting of 9 numbers and 3 letters.
Accumulation Start Date: Date waste was first placed in the container OR date the satellite accumulation container filled to container capacity or 55 gallons (whichever is smallest).
DOT Proper Shipping Name: Refer to the Hazardous Materials Table of the DOT regulations and/or refer to previous manifests
EPA Waste Code: Refer to the completed waste stream determinations

Example of other Commonly Used Labels







Satellite & Central Accumulation Area Labels

Chemical Waste/ Unwanted Material

Circle One: **Hazardous Waste** **Non-Haz Waste**

Waste Description:________________________________
____

Contact Name:______________________Ext. #_______

Lab/Room Number:_______________________________

Date placed in central storage area: _________________

Waste container must be CLOSED when not adding or removing waste!

Chemical Waste/ Unwanted Material

Circle One: **Hazardous Waste** **Non-Haz Waste**

Waste Description:________________________________
____

Contact Name:______________________Ext. #_______

Lab/Room Number:_______________________________

Date placed in central storage area: _________________

Waste container must be CLOSED when not adding or removing waste!

Chemical Waste/ Unwanted Material

Circle One: **Hazardous Waste** **Non-Haz Waste**

Waste Description:________________________________
____

Contact Name:______________________Ext. #_______

Lab/Room Number:_______________________________

Date placed in central storage area: _________________

Waste container must be CLOSED when not adding or removing waste!

Chemical Waste/ Unwanted Material

Circle One: **Hazardous Waste** **Non-Haz Waste**

Waste Description:________________________________
____

Contact Name:______________________Ext. #_______

Lab/Room Number:_______________________________

Date placed in central storage area: _________________

Waste container must be CLOSED when not adding or removing waste!

Chemical Waste/ Unwanted Material

Circle One: **Hazardous Waste** **Non-Haz Waste**

Waste Description:________________________________
____

Contact Name:______________________Ext. #_______

Lab/Room Number:_______________________________

Date placed in central storage area: _________________

Waste container must be CLOSED when not adding or removing waste!

Chemical Waste/ Unwanted Material

Circle One: **Hazardous Waste** **Non-Haz Waste**

Waste Description:________________________________
____

Contact Name:______________________Ext. #_______

Lab/Room Number:_______________________________

Date placed in central storage area: _________________

Waste container must be CLOSED when not adding or removing waste!

Unknown Waste Labels

UNKNOWN WASTE
Pending Analysis

If Solid: Water Soluable (yes/no)
Reactive with water (yes/no)
pH in Water: ___________________________
Flammability: __________________________

If Liquid: pH of solution: __________________________
Reactivity: ______________________________
Miscibility: ______________________________
Flammability: __________________________

Process Generating Waste: ___________________________
Date Identified as Waste: ___________________________
Contact Name:_____________________________________
Lab/Room Number:________________________________

UNKNOWN WASTE
Pending Analysis

If Solid: Water Soluable (yes/no)
Reactive with water (yes/no)
pH in Water: ___________________________
Flammability: __________________________

If Liquid: pH of solution: __________________________
Reactivity: ______________________________
Miscibility: ______________________________
Flammability: __________________________

Process Generating Waste: ___________________________
Date Identified as Waste: ___________________________
Contact Name:_____________________________________
Lab/Room Number:________________________________

UNKNOWN WASTE
Pending Analysis

If Solid: Water Soluable (yes/no)
Reactive with water (yes/no)
pH in Water: ___________________________
Flammability: __________________________

If Liquid: pH of solution: __________________________
Reactivity: ______________________________
Miscibility: ______________________________
Flammability: __________________________

Process Generating Waste: ___________________________
Date Identified as Waste: ___________________________
Contact Name:_____________________________________
Lab/Room Number:________________________________

UNKNOWN WASTE
Pending Analysis

If Solid: Water Soluable (yes/no)
Reactive with water (yes/no)
pH in Water: ___________________________
Flammability: __________________________

If Liquid: pH of solution: __________________________
Reactivity: ______________________________
Miscibility: ______________________________
Flammability: __________________________

Process Generating Waste: ___________________________
Date Identified as Waste: ___________________________
Contact Name:_____________________________________
Lab/Room Number:________________________________

UNKNOWN WASTE
Pending Analysis

If Solid: Water Soluable (yes/no)
Reactive with water (yes/no)
pH in Water: ___________________________
Flammability: __________________________

If Liquid: pH of solution: __________________________
Reactivity: ______________________________
Miscibility: ______________________________
Flammability: __________________________

Process Generating Waste: ___________________________
Date Identified as Waste: ___________________________
Contact Name:_____________________________________
Lab/Room Number:________________________________

UNKNOWN WASTE
Pending Analysis

If Solid: Water Soluable (yes/no)
Reactive with water (yes/no)
pH in Water: ___________________________
Flammability: __________________________

If Liquid: pH of solution: __________________________
Reactivity: ______________________________
Miscibility: ______________________________
Flammability: __________________________

Process Generating Waste: ___________________________
Date Identified as Waste: ___________________________
Contact Name:_____________________________________
Lab/Room Number:________________________________

Empty Labels

EMPTY CONTAINER

Previous contents:______________________________
(Note P-waste code as appropriate)

Department/Lab No.:____________________________

Contact Name/Number: __________________________

Triple Rinsed? (circle one) YES NO
Must be triple rinsed if an acute hazardous waste

Empty defined as: less than 1in residue, no more than 3% by weight of the total container (container $\leq$ 110 gallons) and no more than 0.3% by weigh of the total container (container > 110 gallons)

EMPTY CONTAINER

Previous contents:______________________________
(Note P-waste code as appropriate)

Department/Lab No.:____________________________

Contact Name/Number: __________________________

Triple Rinsed? (circle one) YES NO
Must be triple rinsed if an acute hazardous waste

Empty defined as: less than 1in residue, no more than 3% by weight of the total container (container $\leq$ 110 gallons) and no more than 0.3% by weigh of the total container (container > 110 gallons)

EMPTY CONTAINER

Previous contents:______________________________
(Note P-waste code as appropriate)

Department/Lab No.:____________________________

Contact Name/Number: __________________________

Triple Rinsed? (circle one) YES NO
Must be triple rinsed if an acute hazardous waste

Empty defined as: less than 1in residue, no more than 3% by weight of the total container (container $\leq$ 110 gallons) and no more than 0.3% by weigh of the total container (container > 110 gallons)

EMPTY CONTAINER

Previous contents:______________________________
(Note P-waste code as appropriate)

Department/Lab No.:____________________________

Contact Name/Number: __________________________

Triple Rinsed? (circle one) YES NO
Must be triple rinsed if an acute hazardous waste

Empty defined as: less than 1in residue, no more than 3% by weight of the total container (container $\leq$ 110 gallons) and no more than 0.3% by weigh of the total container (container > 110 gallons)

EMPTY CONTAINER

Previous contents:______________________________
(Note P-waste code as appropriate)

Department/Lab No.:____________________________

Contact Name/Number: __________________________

Triple Rinsed? (circle one) YES NO
Must be triple rinsed if an acute hazardous waste

Empty defined as: less than 1in residue, no more than 3% by weight of the total container (container $\leq$ 110 gallons) and no more than 0.3% by weigh of the total container (container > 110 gallons)

EMPTY CONTAINER

Previous contents:______________________________
(Note P-waste code as appropriate)

Department/Lab No.:____________________________

Contact Name/Number: __________________________

Triple Rinsed? (circle one) YES NO
Must be triple rinsed if an acute hazardous waste

Empty defined as: less than 1in residue, no more than 3% by weight of the total container (container $\leq$ 110 gallons) and no more than 0.3% by weigh of the total container (container > 110 gallons)

Biohazardous Waste Labels

BIOHAZARDOUS WASTE

Waste Description (circle one):

Sharps anatomical remains blood soaked material

Other (describe) ___________________________________

Waste container must be CLOSED when not adding or removing waste!

BIOHAZARDOUS WASTE

Waste Description (circle one):

Sharps anatomical remains blood soaked material

Other (describe) ___________________________________

Waste container must be CLOSED when not adding or removing waste!

BIOHAZARDOUS WASTE

Waste Description (circle one):

Sharps anatomical remains blood soaked material

Other (describe) ___________________________________

Waste container must be CLOSED when not adding or removing waste!

BIOHAZARDOUS WASTE

Waste Description (circle one):

Sharps anatomical remains blood soaked material

Other (describe) ___________________________________

Waste container must be CLOSED when not adding or removing waste!

BIOHAZARDOUS WASTE

Waste Description (circle one):

Sharps anatomical remains blood soaked material

Other (describe) ___________________________________

Waste container must be CLOSED when not adding or removing waste!

BIOHAZARDOUS WASTE

Waste Description (circle one):

Sharps anatomical remains blood soaked material

Other (describe) ___________________________________

Waste container must be CLOSED when not adding or removing waste!

TX Universal Waste Labels

UNIVERSAL WASTE

Circle One: **Batteries** **Paint/Paint Related Material**

Hg Equipment **Lamps** **Pesticide**

Date Waste Generated: _____________ (dispose <1 yr)

Waste container must be CLOSED when not adding or removing waste!

UNIVERSAL WASTE

Circle One: **Batteries** **Paint/Paint Related Material**

Hg Equipment **Lamps** **Pesticide**

Date Waste Generated: _____________ (dispose <1 yr)

Waste container must be CLOSED when not adding or removing waste!

UNIVERSAL WASTE

Circle One: **Batteries** **Paint/Paint Related Material**

Hg Equipment **Lamps** **Pesticide**

Date Waste Generated: _____________ (dispose <1 yr)

Waste container must be CLOSED when not adding or removing waste!

UNIVERSAL WASTE

Circle One: **Batteries** **Paint/Paint Related Material**

Hg Equipment **Lamps** **Pesticide**

Date Waste Generated: _____________ (dispose <1 yr)

Waste container must be CLOSED when not adding or removing waste!

UNIVERSAL WASTE

Circle One: **Batteries** **Paint/Paint Related Material**

Hg Equipment **Lamps** **Pesticide**

Date Waste Generated: _____________ (dispose <1 yr)

Waste container must be CLOSED when not adding or removing waste!

UNIVERSAL WASTE

Circle One: **Batteries** **Paint/Paint Related Material**

Hg Equipment **Lamps** **Pesticide**

Date Waste Generated: _____________ (dispose <1 yr)

Waste container must be CLOSED when not adding or removing waste!

APPENDIX D

INSPECTION AND GENERATION LOGS

SAA Inspections
Central Hazardous Waste Storage Area Inspections
Hazardous Waste Accumulation Log
Autoclave Log

Abilene Christian University Satellite Accumulation Area (SAA) Inspection Log										
Department:				SAA Waste Description:						
Room/Lab No.:				Owner of Process Generating the waste:						
Date:										
Inspector's Name:										
Are containers Closed?										
Are containers labeled with the words "Hazardous Waste" or other words that identify its contents?										
Is there less than 1 quart of acute waste or less than 55 gallons of all other hazardous wastes?										
If no to above, is the container dated with 3 days and moved to the centralized accumulation area?										
Is the waste at or near the point of generation (i.e. same room or lab?)										
Is the waste under control of the person generating the waste?										

ABILENE CHRISTIAN UNIVERSITY
CENTRAL ACCUMULATION AREA (CAA)

Date: _____
Time: _____
Inspectors Name (Print): _____
Inspector (Signature): _____

HAZARDOUS WASTE STORAGE AREA INSPECTION SHEET
Location:_____

INSPECTION ITEMS	YES	NO	If NO, list the discrepancy, how and when was the discrepancy corrected? By whom? Was root cause fixed? Amount of time dedicated to fix the problem? Use additional sheets if necessary.
1. How many containers and what types of wastes are stored in the area (continue list on back of inspection if necessary)?			
2. Are container(s) in good condition?			
3. Are container label(s) clearly visible?			
4. Are container(s) labeled "Hazardous Waste" AND with other words which identify the contents?			
5. Is hazardous waste accumulation limited to less than 2,200 pounds or less than 2.2 pounds of acutely hazardous waste?			
6. Is the initial accumulation date marked on each container?			
7. Is waste compatible with the container?			
8. Are incompatible wastes kept separate?			
9. Is proper aisle space maintained in order to identify any leaking or damaged containers?			
10. Is the area clean (no signs of spillage) and are containers non-leaking?			
11. Is appropriate equipment located nearby and fully functional (i.e. fire extinguisher charged, spill kit fully stocked)?			
12. Are container(s) properly closed?			
13. Is the intended amount of spill-absorbent material readily available in case of an emergency?			
14. Has monthly generation remained less than 220 pounds of hazardous waste and less than 2.2 pounds of acutely hazardous waste?			
15. (Maintenance Only) Is PCB storage area maintained (labeling, dating and non-leaking).			

*****UPDATE WASTE ACCUMULATION LOG*****

ABILENE CHRISTIAN UNIVERSITY
HAZARDOUS WASTE ACCUMULATION LOG

Department: _____ Lab/Class Room Number: _____

Date Placed into Storage	Waste Description	EPA Waste Code	Quantity (pounds)	Date Shipped Off

ABILENE CHRISTIAN UNIVERSITY
1600 CAMPUS COURT
ABILENE, TEXAS 79699
AUTOCLAVE LOG

Location of Autoclave:	
Name/Model Number of Autoclave:	

Date	Material Autoclaved	Approximate Amount (in lbs)	Name (printed)	Signature (Initials)	Date Last Calibrated

APPENDIX E

RCRA Hazardous Waste Training Roster

&

Previous Training Attendance Records

ABILENE CHRISTIAN UNIVERSITY
Annual Hazardous Waste Training

Training Date(s):_____

Trainer's Name (print):_____

Trainer's Name (signature):_____

Trainee's Name (print)	Trainee's Title

APPENDIX F

Chemical Compatibility Chart

EPA's Chemical Compatibility Chart

EPA-600/2-80-076 April 1980

A METHOD FOR DETERMINING THE COMPATIBILITY OF CHEMICAL MIXTURES

Please Note: This chart is intended as an indication of some of the hazards that can be expected on mixing chemical wastes. Because of the differing activities of the thousands of compounds that may be encountered, it is not possible to make any chart definitive and all inclusive. It cannot be assumed to ensure compatibility of wastes because wastes are not classified as hazardous on the chart, nor do any blanks necessarily mean that the mixture cannot result in a hazard occurring. Detailed instructions as to hazards involved in handling and disposing of any given waste should be obtained from the originator of the waste.

CODE	CONSEQUENCE
H	Heat Generation
F	Fire
G	Innocuous and non-flammable gas generation
GT	Toxic Gas formation
GF	Flammable Gas formation
E	Explosion
P	Violent Polymerization
S	Solubilization of toxic substance
U	May be hazardous, but Unknown

#	REACTIVITY GROUP NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	101	102	103	104	105	106	107
1	Acids, Mineral, Non-oxidizing																																									
2	Acids, Mineral, Oxidizing																																									
3	Acids, Organic		G H																																						
4	Alcohols and Glycols	H	H F	H P																																					
5	Aldehydes	H P	H F	H P																																					
6	Amides	H	H GT																																						
7	Amines, Aliphatic and Aromatic	H	H GT	H		H																																			
8	Azo Compounds, Diazo Compounds and Hydrazines	H G	H GT	H G	H G	H																																			
9	Carbamates	H G	H GT						G H																																
10	Caustics	H	H	H		H				H G																															
11	Cyanides	GT GF	GT GF	GT GF					G																																
12	Dithiocarbamates	H,F GF	H,F GF	H,GT GF		GF GT		U	H G																																
13	Esters	H	H F						H G		H																														
14	Ethers	H	H F																																						
15	Fluorides, Inorganic	GT	GT	GT																																					
16	Hydrocarbons, Aromatic		H F																																						
17	Halogenated Organics	H GT	H,F GT					H GT	H G		H GF	H																														
18	Isocyanates	H G	H,F GT	H G	H P			H P	H G		H,P G	H G	U																													
19	Ketones	H	H F						H G		H	H																														
20	Mercaptans and Other Organic Sulfides	GT GF	H,F GT						H G										H	H	H	20																			
21	Metals, Alkali and Alkaline Earth, Elemental	H,F GF	H,F GF	H,F GF	H,F GF	H,F GF	GF H	GF H	GF H	GF H	GF H	GF H	GF,H GT	GF H				H E	GF H	GF H	GF H	21																			
22	Metals, Other Elemental & Alloys as Powders, Vapors, or Sponges	H,F GF	H,F GF	G F					H,F GT	U	GF H							H E	GF H		H,F GF		22																	
23	Metals, Other Elemental & Alloys as Sheets, Rods, Drops, etc.	H,F GF	H,F GF						H,F G									H F						23															
24	Metals and Metal Compounds, Toxic	S	S	S			S	S			S														24															
25	Nitrides	GF HF	H,F E	H GF	H,E GF	GF H			U	H G	U	GF H	GF H	GF H				GF H	U	GF H	GF H	E				25														
26	Nitriles	H,GT GF	H,F GT	H							U											H P			S	GF H	26												
27	Nitro Compounds, Organic		H,F GT			H					H E											H,E GF				H,E GF		27											
28	Hydrocarbons, Aliphatic, Unsaturated	H	H F			H																H E							28									
29	Hydrocarbons, Aliphatic, Saturated		H F																											29									
30	Peroxides and Hydroperoxides, Organic	H G	H E		H F	H G		H GT	H,F E	H,F GT		H,E GT	H,F GT					H E	H	E	H,F GT	H E	H G		H G	H,E GF	H,P GT		H P		30									
31	Phenols and Cresols	H	H F						H G										H P			GF H				GF H					H	31							
32	Organophosphates, Phosphothioates, Phosphodithioates	H GT	H GT						U		H E											H									U		32						
33	Sulfides, Inorganic	GT GF	HF GF	GT		H			E										H												H GT			33					
34	Epoxides	H P	H P	H P	H P	U		H P	H P		H P	H P	U								H P	H P	H P		H P	H P					H P	H P	U	H P	34				
101	Combustible and Flammable Materials, Miscellaneous	H G	H,F GT																			H,F G				H,F GF					H,F GT				101				
102	Explosives	H E	H E	H E					H E		H E			H E								H E	H E	H E	E	H E					H E	H E		H E	H E	H E	102			
103	Polymerizable Compounds	P H	P H	P H					P H		P H	P H	U				H	H	H,F H	H H	H H	P H	P H	P H	P H	P H	H,F E	H E	H F	H F	P H	P H		P H		H E	103		
104	Oxidizing Agents, Strong	H GT		H GT	H F	H F	H,F GT	H,F GT	H E	H,F GT		H,E GT	H,F GT	H F	H F		H F	H GT	H,F GT	H F	H,F GT	H,F E	H,F E	H F		H,F E	H,F GT	H E	H F	H F	H G	H F	H,F GT	H,F GT	H,F G	H G	H,F E	H,F GT	104		
105	Reducing Agents, Strong	H GF	H,F GT	H GF	H,F GF	H,F GF	H GF	H G			H GT	H	F				H,F E	H E	H GF	H GF	H GF						H GF	H E				H E	H GF	H,GT GF		H H	H GF	H E	H,P GF	H,F E	105	
106	Water and Mixtures Containing Water	H	H						G										H G			H GF	H GF		S	H GF							GT GF					GF GT	106	
107	Water Reactive Substances	<---EXTREMELY REACTIVE! DO NOT MIX WITH ANY CHEMICAL OR WASTE MATERIAL! EXTREMELY REACTIVE!--->																																						107
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	101	102	103	104	105	106	107

APPENDIX G

Arrangements with Local Authorities

May 22, 2012

Abilene Fire/Rescue Department
Attn: Chief Ken Dozier
250 Grape Street
Abilene, TX 79601-5607

Abilene Christian University
Attn: Chief Frank Loza
ACU Box 14163
2200 Hickory
Abilene, TX 79698

Hendrick Medical Center
Attention: Administrator
1900 Pine Street
Abilene, Texas 79601

To Whom It May Concern:

This is to serve as notification that Abilene Christian University, located at 1600 Campus Court, Abilene, Texas, generates and stores hazardous waste on site prior to disposal. The types of hazardous waste generated at Abilene Christian University include laboratory waste, used and obsolete laboratory chemicals, and used paints and solvents.

Abilene Christian University maintains a Waste Management Plan and Chemical Hygiene Plan. As such, in case of an emergency, the emergency coordinators on campus are:

Mr. Rickey Brown	Mobile (325) 518-2026
Primary Contact	Work (325) 674-2115
Campus Police	(325) 674-2305

If you have any questions, please do not hesitate to contact me.

Sincerely,

Mr. Scot Colley
Director of Risk Management
Abilene Christian University

APPENDIX H

Hazardous Waste Manifests

APPENDIX I

Universal Waste Manifests

APPENDIX J

E-Waste Auction Signed Agreements

APPENDIX K

Used Oil Manifests

APPENDIX L

Miscellaneous Disposal Documents

APPENDIX M

PCB Waste Manifests

APPENDIX N

Notification of Medical Waste Treatment

May 22, 2012

Dr. Richard C. Carmichael, PhD, Director
Municipal Solid Waste Permits Section - MC 124
Texas Commission on Environmental Quality
P. O. Box 13087
Austin, Texas 78711-3087

Dear Director Carmichael,

Please accept this letter as notification that Abilene Christian (ACU) operates a medical waste treatment unit to treat only on-site generated medical waste as defined in 30 TAC 330.1205(b). This notification is submitted as required by 30 TAC 330.11(f). The treatment unit utilizes steam sterilization which is an approved method in accordance with 25 TAC 1.133(b)(4).

ACU generates less than 50 pounds of medical waste per month, as such, the university maintains the following records:

- date of treatment;
- amount of waste treated;
- method/condition of treatment; and
- the name and initials of person performing treatment.

Please contact me if you have any questions or suggestions.

Sincerely,

Mr. Scot Colley
Director of Risk Management
Abilene Christian University