COCCIARDI and Associates, Inc.
Safety • Environmental Health • Emergency Preparedness
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Hazardous Waste Management Plan

Marywood University
Scranton, Pennsylvania

Provided to:

Marywood University
2300 Adams Avenue
Scranton, Pennsylvania 18509

Provided by:

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SECTION I – SCOPE, APPLICABILITY and PERSONNEL RESPONSIBILITIES

The Marywood University Hazardous Waste Management Plan describes all requirements relative to hazardous waste generated onsite by the University, including identification of all waste streams, proper handling, labeling, containers, recordkeeping, storage practices, employee training objectives and disposal procedures. This Plan was developed to comply with federal and state regulations applicable to hazardous waste management activities established by the U.S. Environmental Protection Agency (US EPA) in 40 CFR 260-279 and the Resource Conservation and Recovery Act (RCRA), and the Pennsylvania Department of Environmental Protection (PA DEP) in 25 PA Code Chapter 260-265, where applicable.

This plan was implemented to manage hazardous waste in order to minimize the possibility of employee, student and public exposures to a hazardous waste and release of hazardous waste into the environment. Each department of the University that generates hazardous wastes is incorporated in this plan. University personnel with responsibilities under this Plan include the following:

1. **Senior Director for University Safety, Security and Environmental Compliance:** Overall plan implementation; periodic plan review, inspections and auditing; emergency contact; coordination of employee training program; facilitation of disposal and transport operations; recordkeeping.

2. **Director of Physical Plant:** Identifications of hazardous waste streams within department; personnel listing; coordination of waste pickup schedules.

3. **Assistant Director of Buildings and Grounds:** Identifications of hazardous waste streams within department; personnel listing; coordination of waste pickup schedules.

4. **Superintendent of Building Services and Housekeeping:** Identifications of hazardous waste streams within department; personnel listing; coordination of waste pickup schedules.

5. **Maintenance Planner/Scheduler:** Identifications of hazardous waste streams within department; personnel listing; coordination of waste pickup schedules; facilitation of biohazardous waste pickup, transport and disposal; maintenance of Central Storage Area (CSA).

6. **Academic Department Heads:** Identifications of hazardous waste streams within department; personnel listing; coordination of waste pickup schedules; maintenance of Satellite Accumulation Areas (SAA) within department.

7. **Generators of Hazardous Waste:** Applications of knowledge gathered from training relative to storage, handling, etc.; maintaining work areas and SAA as designated in this Plan.

SECTION II – GENERATOR STATUS

This Plan applies to The University, Scranton, Pennsylvania due to the on-site generation, storage, accumulation and shipment of hazardous wastes at the facility. Per 40 CFR 261.5(c) and (d), and 262.10(b), The University is classified as a Conditionally Exempt Small Quantity Generator of

hazardous waste due to the generation of no more than 100 kilograms (220 pounds) of a hazardous waste and less than one kilogram of an acutely hazardous waste in a calendar month. As such, all hazardous waste management practices identified in this plan were developed in accordance with the requirements for Conditionally Exempt Small Quantity Generators (CESQG) of hazardous waste. Although CESQGs are not subject to the requirements of 40 CFR Part 262 and 25 PA Code Chapter 262a, as a Best Management Practice, the University has adopted specific guidelines based on these regulations.

Records of hazardous wastes generated are maintained in the form of hazardous waste shipment manifests by the Senior Director of Campus Safety, Security and Environmental Compliance.

SECTION III – HAZARDOUS WASTE DETERMINATIONS

As a part of this plan, all solid wastes generated by the University will be classified as either hazardous or non-hazardous. Under 40 CFR Part 261, hazardous wastes are defined under two (x2) categories: (1) solid wastes that are listed as hazardous by the US EPA and/or PA DEP; and (2) solid wastes which exhibit one of four hazardous characteristics (ignitibility, corrosivity, reactivity, and toxicity). The University conducts hazardous waste determinations on all waste streams identified in this plan, either by process knowledge (i.e. MSDS) or testing (i.e. US EPA approved methods). All documentation associated with the determinations of hazardous wastes is maintained by the University Physical Plant for a minimum of three (3) years from the last disposal date for each waste.

A. Listed Wastes

Solid wastes are classified as hazardous if they are not specifically excluded from regulations and are identified on a hazardous waste list established by US EPA in 40 CFR 261 Subpart D. These lists are as follows:

- **Non-specific source waste (F List):** F-List wastes are determined by the EPA to be hazardous but not generated by a particular industry or manufacturing process.

- **Specific source waste (K-List):** K-List wastes are determined by the EPA to be hazardous and are generated by specifically identified industries.

- **Commercial chemical products (P-List and U-List):** These wastes are defined by the EPA as discarded or intended to be discarded commercial chemical products, off-specification commercial chemical products, manufacturing chemical intermediates and their container residues/spills having generic names on the P and U Lists. Materials on the P-List are defined as acutely-hazardous wastes and materials on the U-List are defined as toxic wastes.

US EPA Listed wastes are found in Appendix A of this Plan.

B. Characteristic Wastes

A solid waste can also be classified as a hazardous waste if it exhibits any of the following characteristics, as identified in 40 CFR Part 261 Subpart C:

- **Ignitibility *(EPA Code D001)*:** Ignitibility is the ability of wastes to catch fire under certain conditions and has the following properties:
  - A liquid (non-aqueous solution) containing less than 24% alcohol by volume with a flash point below 140ºF;
  - A non-liquid able to cause fire through friction, absorption of moisture or spontaneous chemical change under standard temperature and pressure and when ignited creates a hazard by burning vigorously and persistently;
  - An ignitable compressed gas, including gases that form flammable mixtures at a concentration of 13% or less in air; or
  - An oxidizer that readily stimulates combustion of organic material (i.e. permanganate, inorganic peroxide, nitrates).

- **Corrosivity *(EPA Code D002)*:** Wastes defined as corrosive demonstrate the following properties:
  - Aqueous wastes having a pH less than or equal to 2 or greater than or equal to 12.5; or
  - Liquid wastes that has the ability to corrode metals.

- **Reactivity *(EPA Code D003)*:** Wastes defined as reactive demonstrate the following properties:
  - Typically unstable wastes that readily undergo violent change without detonation;
  - React violently with water;
  - Have the ability to generate potentially explosive mixtures with water;
  - When mixed with water, the material can form toxic fumes, gases and vapors;
  - A cyanide or sulfide waste that generates toxic fumes, gases and vapors at a pH between 2 and 12.5;
  - Is capable of detonation, explosive decomposition or reaction at standard temperature and pressure;
  - Is capable of detonation or explosive reaction when subject to a strong initiating source; or
  - Is classified as an explosive under U.S. Department of Transportation regulations (49 CFR 173).

- **Toxicity *(EPA Code D004 to D043)***: Toxic wastes are harmful or fatal when ingested or absorbed, or have the ability to leach toxic chemicals into the environment. Examples include wastes that contain high concentrations of specific toxicants as identified by EPA-defined test procedures. Criteria for toxic concentrations is found in Appendix B of this Plan.

SECTION IV – HANDLING REQUIREMENTS

A. General Requirements and Prohibitions

Once a material is identified by the University as a hazardous waste, it will be handled in accordance with this Plan. The University does not dispose of or recycle hazardous wastes with municipal waste, incinerate or evaporate hazardous wastes, or dispose of hazardous wastes on land. The University does not dispose of hazardous wastes into the municipal sewer (i.e. into sinks and drains) without following proper dilution and neutralization procedures identified in the Laboratory Chemical Hygiene Plan.

All requirements relative to handling of hazardous wastes, including accumulation limits, storage procedures, container requirements, and labeling, are identified in this section.

B. Accumulation Limits

The University accumulates hazardous waste on-site for 180 days or less, thereby exceeding the requirements established for CESQG of hazardous waste. Offsite shipments to Treatment, Storage and Disposal Facilities (TSDF) are regularly scheduled by The University on a bi-annual basis. Additionally, The University does not exceed the 100 kilogram accumulation threshold maintaining its generator status as a CESQG.

The University Physical Plant is responsible for scheduling hazardous waste shipments and coordinating with all departments that generate hazardous waste. All wastes stored in satellite accumulation areas will be transported by the Physical Plant to the central storage area prior to the scheduled pick-up date.

C. Containers

The University maintains all containers holding hazardous materials in compliance with requirements of 40 CFR 262.34 and 25 PA Code Chapter 265a Subchapter I. Specifically:

- **Labeling Requirements:** All hazardous waste containers are labeled appropriately as the materials are designated as a hazardous waste. All labels are maintained in a visible and legible condition and include the following:
    - The date of initial accumulation
    - A label indicating the phrase “Hazardous Waste”
    - The person generating the waste’s contact information
    - A description of the waste (this can include the manufacturer’s label, trade name, hazard class, etc.).
- **Label Application:** Labels are placed on the container so that any original labels are not concealed.

- **Container Maintenance:** Hazardous waste containers are sealed except when adding or transferring waste. If a container cannot be sealed, they will be placed into an overpack container as supplied by the Physical Plant.

- **Compatibility:** Containers are to be compatible to the material they contain. All containers are segregated from incompatible wastes based on the US EPA Chemical Compatibility Chart (Appendix C).

- **Container Condition:** Containers are maintained in good condition. Containers are inspected periodically for leaks, spills and degradation to prevent a release of hazardous wastes. If containers are determined to be in poor condition, the waste is transferred to a new container.

- **Container Storage:** Containers are not stored in a manner that will jeopardize the integrity of the container (i.e. containers will not be stored near ledges or devices that may cause rupture).

- **Inspection of Containers:** Groups of containers are maintained in a way that does not impede inspection or containment, if necessary.

- **Flammable Storage:** Flammable hazardous wastes are stored in rated flammable storage cabinets to prevent accidental ignition.

- **Container Reuse:** All containers previously used for hazardous waste must meet the definition of RCRA-Empty prior to reuse or disposal as municipal waste. The container is considered empty when all contents have been removed by pouring, pumping or aspirating and if the following apply *(employees who handle paint and aerosol containers are instructed to follow these procedures):*

    - The inner lining and bottom of the container have no more than one inch of residue.
    - For 100-gallon or less containers, no more than 3% of the total capacity of the container remains.
    - For containers over 100-gallons, no more than 0.3% of the container's total capacity remains.

  For P-Listed wastes, the container is not considered empty until it has been triple-rinsed using an appropriate solvent. All rinsate from this process must be collected and managed as a hazardous waste.

  Compressed gas cylinders are empty when the pressure in the container approaches atmospheric pressure. The University contacts the supplier for proper disposal of all compressed gas cylinders.

D. Storage Areas

Under hazardous waste accumulation requirements in 40 CFR 262.34, hazardous wastes can be accumulated at or near the initial point of generation, referred to as the Satellite Accumulation Area (SAA).

All SAAs identified in this Plan are managed in accordance with the requirements of 40 CFR 262.34(c), as follows:

- **Quantity Threshold:** A maximum of 55-gallons of hazardous wastes are accumulated in containers within the SAA. If the 55-gallon threshold is exceeded, the waste is transported to the Central Storage Area within three (3) days.

- **Time Threshold:** Hazardous wastes located within a SAA are transferred to the Central Storage Area within one (1) year of the initial accumulation date.

- **SAA Manager:** Each SAA is under direct control of an individual trained in proper management of SAAs. This individual will be referred to as a SAA Manager.

- **Labeling:** All hazardous wastes within the SAA are managed with the proper labeling and container requirements identified in this plan.

- **Locations:** Waste storage areas are not located in the following areas:

    - Close proximity to sinks and or drains that discharge into the municipal sewer system.
    - Behind doors or windows, aisles or other means of egress.

- **Design:** All SAAs will be designed to maintain sufficient aisle space to allow the unobstructed movement of personnel and emergency equipment throughout the work area.

- **Signage and Emergency Equipment:** The room containing the SAA will be equipped with the following:
    - A telephone for summoning emergency assistance and a readily accessible listing of applicable emergency contact information;
    - Portable fire extinguishers or additional fire suppression equipment;
    - Appropriate signage designated the area as a SAA and relative contact information.

- **Design Limitations:** Each SAA is designed to contain hazards present (i.e. equipped with flammable storage cabinets where flammables are stored).

SECTION V – IDENTIFIED HAZARDOUS WASTE STREAMS

As identified in Section III, determinations of hazardous waste will be made for all solid wastes. The following section identifies all waste streams currently generated on-site. Specific listings for all identified waste streams are outlined in Appendix D.

A. Physical Plant/Maintenance/Housekeeping

The Physical Plant, including the Maintenance and Housekeeping Departments, generates hazardous waste from general maintenance and repairs, discarded paints, solvents, commercial cleaning products, pool treatment, and automotive maintenance activities. Employees on the supervisory level will be trained in the procedures used to determine if a new waste stream must be classified as hazardous.

B. Science Department

The Science Department, located in the Center for Natural and Health Sciences building, constitutes the chemistry and biology (microbiology and biotechnology) departments. Each department generates typical laboratory wastes including experiment products (flammables, corrosives, toxic wastes), unused/expired reagents, animal specimens, and potentially contaminated lab equipment. Employees on the supervisory level will be trained in the procedures used to determine if a new waste stream must be classified as hazardous.

C. Art Department

The Art Department consists of Sculpture, Ceramics, Photoshop, Printmaking, and Painting Programs. All activities that generate hazardous wastes are located within the Studio Arts Center. Hazardous waste streams include inks, heavy metal wastes (i.e. silver), solvents, developing chemicals including acidic and caustic chemical products, compressed gases for welding, and discarded paints and aerosols. Employees on the supervisory level will be trained in the procedures used to determine if a new waste stream must be classified as hazardous.

D. Theatre Department

The Theatre Department is located within the Performing Arts Center. All hazardous wastes associated with this department are generated in the terrace level scene shop and include latex and casein-based paints, adhesives, consumer bleach, pyrotechnics, and aerosols. Employees on the supervisory level will be trained in the procedures used to determine if a new waste stream must be classified as hazardous.

E. Human Performance Laboratory

Employees on the supervisory level will be trained in the procedures used to determine if a new waste stream must be classified as hazardous.

F. Architecture

The Architecture Department is located in the School of Architecture building. Identified hazardous waste streams include paints, lubricating oils. Employees on the supervisory level will be trained in the procedures used to determine if a new waste stream must be classified as hazardous.

G. Additional Waste Streams

1. Universal Wastes

Universal wastes (batteries, lamps, mercury thermostats and other mercury-containing devices) are considered hazardous wastes, however are managed under the University's Universal Waste Management Plan, developed in compliance with US EPA and PA DEP requirements identified in 40 CFR 273 (Standards for Universal Waste Management) and 25 PA Code Chapter 266b (Requirements for Managing Universal Wastes), respectively.

2. Used Oil / Filters

All used oil generated by the University is recycled through a reclamation company. Used oil is stored in proper containers appropriate for holding petroleum-based product and adequately labeled.

Used filters are managed as recyclable scrap metal and collected by the reclamation contractor. In order to prevent leakage, used oil filters are drained of all oil prior to recycling. Drained oil is captured and recycled as identified above. The University has identified a proper protocol for draining oil filters as follows:

- After a hole is punctured in the dome of the filter, the filter is turned upside down over a drip pan or other collection basin for a minimum of 12 hours at room temperature (60ºF) to ensure all residual oil is drained.
- A funnel is utilized to transfer used oil from the drip pan into the waste oil container for collection by the reclamation contractor.
- Remaining oil from the drip pan and the filter will not be rinsed down drains or sinks.

3. Biohazardous Wastes

The University accumulates biohazardous waste in the Nursing Lab (Center for Natural and Health Sciences) and the Athletic Training area (Center for Health and Physical Education) at room temperature until the container is full, but no longer than 30 days from the date the waste was first put in the container. A filled waste container may be stored in a refrigerated for up to 30 days from the date the waste was first placed in the container. Additionally, a biohazardous waste container which has been filled within 30 days from when waste was first put in the container may be frozen immediately for up to 90 days from the date waste was first placed in the container. If the waste becomes putrescent during storage, it will be moved offsite within 24 hours for processing/disposal.

All biohazardous waste is stored in appropriately labeled red bags within designated infectious waste containers (bins/boxes). Each bag is labeled with the start accumulation date.

Biohazardous waste is transported to the Central Storage Area (CSA) located in the Maintenance Building's rear outbuilding prior to pickup by the contracted qualified hauler for transport and disposal.

4. Municipal Waste

Municipal Waste includes all wastes that are not determined to be a listed or characteristic hazardous waste, universal waste or biohazardous waste. Examples included general construction debris, typical household wastes, foodstuffs/containers, landscaping debris, used paint and aerosol containers that meet the definition of RCRA empty. The University disposes of all Municipal Waste in general trash or into the recycling program, where applicable.

SECTION VI – PREPAREDNESS AND EMERGENCY RESPONSE ACTIVITIES

The University has implemented an Emergency Response Plan that identifies provisions to be carried out in emergency situations that may endanger public health and safety or the environment. Per requirements established under the hazardous waste regulations, specific procedures identified in the ERP are outlined in this Hazardous Waste Management Plan. Specifically:

A. Preparedness and Prevention Procedures

- **Storage:** As identified in Section III of this plan, all areas where hazardous wastes are generated and stored are designed to minimize the potential for release.

- **Emergency Equipment:** All areas where hazardous wastes are generated and stored are equipped with readily available emergency equipment, including fire extinguishers, internal alarms, telephones, and/or site-specific chemical spill kits.

- **Facility Design:** All areas were SAAs are maintained have adequate aisle space to allow for means of egress and emergency response activities;

- **Response Agency Agreements:** Arrangements have been made with the following local emergency response authorities to assist in the event of emergencies:

    - Scranton Bureau of Fire
    - Dunmore Fire Department
    - Scranton Police Department
    - Lackawanna County Emergency Management Agency
    - Cocciardi and Associates, Inc. (24-Hour Environmental Health and Safety Consultant)
    - Datom Products, Inc. (24-hour Hazardous Materials Response Contractor)

B. Emergency Procedures

- An Emergency Coordinator has been designated by the ERP:

<u>David Elliot</u>
Senior Director for University SS and EC
Office: (570) 340-6075
Emergency Cell Phone: (570) 468-0374

- Emergency response and contact information has been posted next to telephones in all areas where hazardous wastes are generated.

- Employee training includes familiarizing all affected personnel with waste handling and emergency procedures, as described in Section VII of this Plan.

- In the event of an emergency involving hazardous wastes, the University must follow the requirements of 40 CFR 262.34(d) 5)(iv):

  - o <u>Fires</u>- notify the fire department and/or attempt to extinguish.
  - o <u>Spills</u>- contain the flow of hazardous waste to the extent possible and, as soon as practicable, clean up the hazardous waste and any contaminated materials. All remedial materials are to be handles and disposed of as hazardous wastes;
  - o <u>Fire, explosion, or release that may threaten areas outside of the facility</u>- notify the National Response Center and the Northeast Regional Office of the PA DEP.

SECTION VII – TRAINING PROGRAM

As a CESQG, the University trains affected employees to the extent that they are thoroughly familiar in proper hazardous waste handling and emergency procedures as identified in this plan. As identified by the University, affected employees will take part in the University Training Program. Heads of each covered University Department are responsible for identifying incorporated employees (i.e. handlers of hazardous waste). The University Senior Director for University SS and EC Compliance is responsible for facilitation of all employee training covered under this Plan. All employees will be made aware of this plan and its availability. Specific training as it relates to this plan includes:

1. Hazardous Waste Handlers

Initial Training

- **RCRA Review:** A brief regulatory review, including US EPA, PA DEP and DOT involvement; "cradle-to-grave" approach of RCRA.
- **Universal Wastes:** A review of the practices associated with the generation of universal wastes as designated by the University Universal Waste Management Program.
- **Material Safety Data Sheets (MSDS):** A review of all MSDS forms within each of the employee's work area, including locations and how to interpret MSDSs.
- **Emergency Response:** A review of key components of the University ERP Plan; basic spill control procedures and equipment; chain-of-command; emergency contact review.
- **Identification of Hazardous Wastes:** Awareness-level reviewof hazardous waste determinations and the decision-making process involved in classifying a waste stream.

Annual Refresher Training

- Review of RCRA and the provisions of this Plan.
- Review of universal waste management practices.
- Review of all existing and new MSDS forms.
- Review of work area changes.

2. Satellite Accumulation Area (SAA) Managers and Department Heads

Initial and Refresher Training

- **Hazardous Waste Handler:** All elements within the Hazardous Waste Handler training program.
- **Identification of Hazardous Wastes:** Completing Hazardous Wastes Determinations
- **SAA Management:** SAA Management Procedures, as identified in Section IV of this Plan.

3. Individuals Responsible of Shipment of Hazardous Waste

Initial and Triennial Training

- **DOT Hazardous Materials:** All elements identified by DOT under the Hazardous Materials Regulations codified in 49 CFR Subpart H.
- **Security Awareness:** As specified by DOT under the above.

Records of training are maintained by the Senior Director for University SS and EC Compliance for a period of three (3) years from the date the employee last work for the University.

SECTION VIII – SHIPMENT AND RECORDKEEPING

The University schedules off-site shipment of hazardous wastes on a bi-annual basis with a PA DEP-licensed hazardous waste hauler. All hazardous wastes are transported to a TSDF that is authorized/permitted/registered to manage hazardous wastes by a state with an approved RCRA program. Prior to shipment, the University ensures that all wastes are properly packaged, labeled, marked and placarded in accordance with US DOT regulations identified in 49 CFR Parts 172 to 179 before shipment. This is accomplished via the University Hazardous Waste Contractor Compliance Checklist (Appendix E). All employees that may take part in this process are trained, as identified in Section VII.

Additionally, The University ensures that appropriate sections of the Manifest are completed for each shipment. The hazardous waste transporter must sign and date a copy of the manifest before leaving. This copy is maintained by the University until the completed manifest is received (signed and dated) by the TSDF within thirty (30) days. The final copy of the manifest will be maintained by the University for a minimum period of three (3) years from the date of shipment. Only those University employees trained under Section VII.3 of this Plan may sign a hazardous waste manifest.

The following information is maintained under The University's Recordkeeping Practices:

- Test results, waste analyses or waste determinations (minimum 3 years from date the waste was last shipped to TSDF);
- All signed manifests provided to the hazardous waste transporter after receiving wastes for shipment (minimum 3 years from date of shipment or until signed copy from TSDF is received);
- All signed manifests from TSDF (minimum 3 years from date of shipment).

Non-Specific Sources	
EPA Hazardous Waste Number	**Hazardous Waste from non-specific sources**
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.
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.
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.
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.
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.
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 align=center etching and milling of aluminum.
F007	Spent cyanide plating bath solutions from electroplating operations.
F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.
F010	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.

F012	Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process.
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.
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 termediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol.).
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.
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.
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.).
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).
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.
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.
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.).
F028	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027.
F032	Wastewaters (except those that have not come into contact with process contaminants),rocess 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.
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.
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.
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 oily 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.
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.
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.)

Acute Hazardous Waste	
EPA Hazardous Waste Number	**Hazardous Waste from non-specific sources**
P023	Acetaldehyde, chloro-
P002	Acetamide, N-(aminothioxomethyl)-
P057	Acetamide, 2-fluoro-
P058	Acetic acid, fluoro-, sodium salt
P002	Acetyl-2-thiourea, 1-
P003	Acrolein
P070	Aldicarb
P203	Aldicarb sulfone
P004	Aldrin
P005	Allyl alcohol
P006	Aluminum phosphide
P007	Aminomethyl)-3-isoxazolol, 5-(
P008	Aminopyridine, 4-
P009	Ammonium picrate
P119	Ammonium vanadate
P099	Argentate(1-), bis(cyano-C)-, potassium
P010	Arsenic acid H3AsO4
P012	Arsenic oxide As2O3
P011	Arsenic oxide As2O5
P011	Arsenic pentoxide
P012	Arsenic trioxide
P038	Arsine, diethyl-
P036	Arsonous dichloride, phenyl-
P054	Aziridine
P067	Aziridine, 2-methyl-
P013	Barium cyanide
P024	Benzenamine, 4-chloro-
P077	Benzenamine, 4-nitro-
P028	Benzene, (chloromethyl)-
P042	Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, 1,2-
P046	Benzeneethanamine, alpha,alpha-dimethyl-
P014	Benzenethiol
P127	Benzofuranol, 2,3-dihydro-2,2-dimethyl-,-2-methylcarbamate
P188	Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1,3a,8-tr imethylpyrrolo[2,3-b]indol-5-yl methylcarbamate ester
P001	Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-2-phenylbutyl)-2H-1-, & salts, when present at concentrations greater than 0.3%
P028	Benzyl chloride
P015	Beryllium powder
P017	Bromoacetone
P018	Brucine
P045	Butanone, 3,3-dimethyl-1-(methylthio)-, O-4-[methylamino)carbonyl] oxime

P021	Calcium cyanide
P021	Calcium cyanide Ca(CN)
P189	Carbamic acid, [(dibutylamino)- thio]methyl-, 2,3,-dihydro-2,2-dimethyl- 7-benzofuranyl ester
P191	Carbamic acid, dimethyl-, 1-[(dimethyl-amino)carbonyl]-5-methyl-1H- pyrazol-3-yl ester
P192	Carbamic acid, dimethyl-, 3-methyl-1- (1-methylethyl)-1H-pyrazol-5-yl ester
P190	Carbamic acid, methyl-, 3-methylphenyl ester
P127	Carbofuran.
P022	Carbon disulfide
P095	Carbonic dichloride
P189	Carbosulfan
P023	Chloroacetaldehyde
P024	p-Chloroaniline
P026	Chlorophenyl)thiourea, 1-(o-
P027	Chloropropionitrile, 3-
P029	Copper cyanide
P029	Copper cyanide Cu(CN)
P202	Cumenyl methylcarbamate, m-
P030	Cyanides (soluble cyanide salts), not otherwise specified
P031	Cyanogen
P033	Cyanogen chloride
P033	Cyanogen chloride (CN)Cl
P034	Cyclohexyl-4,6-dinitrophenol, 2-
P016	Dichloromethyl ether
P036	Dichlorophenylarsine
P037	Dieldrin
P038	Diethylarsine
P041	Diethyl-p-nitrophenyl phosphate
P040	Diethyl O-pyrazinyl phosphorothioate, O,O-
P043	Diisopropylfluorophosphate (DFP)
P004	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	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-,(1alpha,4alpha,4abeta,5beta,8beta,8abeta)-
P037	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	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	Dimethoate
P046	alpha,alpha-Dimethylphenethylamine
P191	Dimetilan
P047	4,6-Dinitro-o-cresol, & salts
P048	2,4-Dinitrophenol
P020	Dinoseb
P085	Diphosphoramide, octamethyl-
P111	Diphosphoric acid, tetraethyl ester
P039	Disulfoton

P049	Dithiobiuret
P185	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-[(methylamino)-carbonyl]oxime
P050	Endosulfan
P088	Endothall
P051	Endrin
P051	Endrin, & metabolites
P042	Epinephrine
P031	Ethanedinitrile
P194	Ethanimidothioc acid, 2-(dimethylamino)-N-0-[[(methylamino) carbonyl]oxy]-2-oxo-, methyl ester
P066	Ethanimidothioic acid, N- [[(methylamino)carbonyl]oxy]-, methyl ester
P101	Ethyl cyanide
P054	Ethyleneimine
P097	Famphur
P056	Fluorine
P057	Fluoroacetamide
P058	Fluoroacetic acid, sodium salt
P198	Formetanate hydrochloride
P197	Formparanate
P065	Fulminic acid, mercury(2+) salt
P059	Heptachlor
P062	Hexaethyl tetraphosphate
P116	Hydrazinecarbothioamide
P068	Hydrazine, methyl-
P063	Hydrocyanic acid
P063	Hydrogen cyanide
P096	Hydrogen phosphide
P060	Isodrin
P192	Isolan
P202	Isopropylphenyl N-methylcarbamate
P007	3(2H)-Isoxazolone, 5-(aminomethyl)-
P196	Manganese, bis(dimethylcarbamodithioato-S,S')-,
P196	Manganese dimethyldithiocarbamate
P092	Mercury, (acetato-O)phenyl-
P065	Mercury fulminate
P082	Methanamine, N-methyl-N-nitroso-
P064	Methane, isocyanato-
P016	Methane, oxybis[chloro-
P112	Methane, tetranitro-
P118	Methanethiol, trichloro-
P198	Methanimidamide, N,N-dimethyl-N'-[3-[[(methylamino)-carbonyl]oxy]phenyl]-, monohydrochloride
P197	Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[[(methylamino)carbonyl]oxy]phenyl]-
P050	Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexa hydro-, 3-oxide
P059	Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-
P199	Methiocarb

P066	Methomyl
P068	Methyl hydrazine
P064	Methyl isocyanate
P069	Methyllactonitrile
P071	Methyl parathion
P190	Metolcarb
P128	Mexacarbate
P072	alpha-Naphthylthiourea
P073	Nickel carbonyl
P073	Nickel carbonyl Ni(CO)4
P074	Nickel cyanide
P074	Nickel cynaide Ni(CN)2
P075	Nicotine, & salts
P076	Nitric oxide
P077	p-Nitroaniline
P078	Nitrogen dioxide
P076	Nitrogen oxide NO
P078	Nitrogen oxide NO2
P081	Nitroglycerine
P082	N-Nitrosodimethylamine
P084	N-Nitrosomethylvinylamine
P085	Octamethylpyrophosphoramide
P087	Osmium oxide OsO4
P087	Osmium tetroxide
P088	Oxabicyclo[2.2.1]heptane-2, 3-dicarboxylic acid
P194	Oxamyl
P089	Parathion
P034	Phenol, 2-cyclohexyl-4,6-dinitro-
P048	Phenol, 2,4-dinitro-
P047	Phenol, 2-methyl-4,6-dinitro-, & salts
P020	Phenol, 2-(1-methylpropyl)-4,6-dinitro-
P009	Phenol, 2,4,6-trinitro-, ammonium salt
P128	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester)
P199	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate
P202	Phenol, 3-(1-methylethyl)-, methyl carbamate
P201	Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate
P092	Phenylmercury acetate
P093	Phenylthiourea
P094	Phorate
P095	Phosgene
P096	Phosphine
P041	Phosphoric acid, diethyl4-nitrophenyl ester
P039	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester
P094	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester
P044	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester
P043	Phosphorofluoridic acid, bis(1-methylethyl) ester

P089	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester
P040	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P097	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester
P071	Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl) ester
P204	Physostigmine
P188	Physostigmine salicylate
P110	Plumbane, tetraethyl-
P098	Potassium cyanide
P098	Potassium cyanide KCN
P099	Potassium silver cyanide
P201	Promecarb
P070	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime
P203	Propanal, 2-methyl-2-(methyl-sulfonyl)-, O-[(methylamino)carbonyl] oxime
P101	Propanenitrile
P027	Propanenitrile, 3-chloro-
P069	Propanenitrile, 2-hydroxy-2-methyl-
P081	Propanetriol, trinitrate
P017	Propanone, 1-bromo-
P102	Propargyl alcohol
P003	Propenal
P005	Propen-1-ol
P067	Propylenimine
P102	Propyn-1-ol
P008	Pyridinamine
P075	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts 5
P204	Pyrrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS- cis)-
P114	Selenious acid, dithallium(1+) salt
P103	Selenourea
P104	Silver cyanide
P104	Silver cyanide Ag(CN)
P105	Sodium azide
P106	Sodium cyanide
P106	Sodium cyanide Na(CN)
P108	Strychnidin-10-one, & salts
P018	Strychnidin-10-one, 2,3-dimethoxy-
P108	Strychnine, & salts
P115	Sulfuric acid, dithallium(1+)salt
P109	Tetraethyldithiopyrophosphate
P110	Tetraethyl lead
P111	Tetraethyl pyrophosphate
P112	Tetranitromethane
P062	Tetraphosphoric acid, hexaethyl ester
P113	Thallic oxide
P113	Thallium oxide Tl2O3
P114	Thallium(I) selenite
P115	Thallium(I) sulfate

P109	Thiodiphosphoric acid, tetraethyl ester
P045	Thiofanox
P049	Thioimidodicarbonic diamide
P014	Thiophenol
P116	Thiosemicarbazide
P026	Thiourea, (2-chlorophenyl)-1
P072	Thiourea, 1-naphthalenyl-
P093	Thiourea, phenyl-
P185	Tirpate
P123	Toxaphene
P118	Trichloromethanethiol
P119	Vanadic acid, ammonium salt
P120	Vanadium oxide V2O5
P120	Vanadium pentoxide
P084	Vinylamine, N-methyl-N-nitroso-
P001	Warfarin, & salts, when present at concentrations greater than 0.3%
P205	Zinc, bis(dimethylcarbamodithioato-S,S')-,
P121	Zinc cyanide
P121	Zinc cyanide Zn(CN)2
P122	Zinc phosphide Zn3P2, when present at concentrations greater than 10%
P205	Ziram

Toxic (Non-Acute) Hazardous Waste	
EPA Hazardous Waste Number	**Hazardous Waste from non-specific sources**
U394	A2213
U001	Acetaldehyde
U034	Acetaldehyde, trichloro-
U187	Acetamide, N-(4-ethoxyphenyl)-
U005	Acetamide, N-9H-fluoren-2-yl-
U240	Acetic acid, (2,4-dichlorophenoxy)-, salts & esters
U112	Acetic acid ethyl ester
U144	Acetic acid, lead(2+) salt
U214	Acetic acid, thallium(1+) salt see F027Acetic acid, (2,4,5-trichlorophenoxy)-
U002	Acetone
U003	Acetonitrile
U004	Acetophenone
U005	Acetylaminofluorene
U006	Acetyl chloride
U007	Acrylamide
U008	Acrylic acid
U009	Acrylonitrile
U011	Amitrole
U012	Aniline
U136	Arsinic acid, dimethyl-
U014	Auramine
U015	Azaserine
U365	Azepine-1-carbothioic acid, hexahydro-, S-ethyl 1 ester
U010	Azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione,6-amino-8-[[(amin ocarbonyl)oxy] methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha, 8beta,8aalpha,8balpha)]-
U280	Barban
U278	Bendiocarb
U364	Bendiocarb phenol
U271	Benomyl
U157	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
U016	Benz[c]acridine
U017	Benzal chloride
U192	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-
U018	Benz[a]anthracene
U094	Benz[a]anthracene, 7,12-dimethyl-
U012	Benzenamine
U014	Benzenamine, 4,4'-carbonimidoyl bis[N,N-dimethyl-
U049	Benzenamine, 4-chloro-2-methyl-, hydrochloride
U093	Benzenamine, N,N-dimethyl-4-(phenylazo)-
U328	Benzenamine, 2-methyl-
U353	Benzenamine, 4-methyl-

U158	Benzenamine, 4,4'-methylenebis[2-chloro-
U222	Benzenamine, 2-methyl-, hydrochloride
U181	Benzenamine, 2-methyl-5-nitro-
U019	Benzene
U038	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester
U030	Benzene, 1-bromo-4-phenoxy-
U035	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-
U037	Benzene, chloro-
U221	Benzenediamine, ar-methyl-
U028	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester
U069	1,2-Benzenedicarboxylic acid, dibutyl ester
U088	1,2-Benzenedicarboxylic acid, diethyl ester
U102	1,2-Benzenedicarboxylic acid, dimethyl ester
U107	1,2-Benzenedicarboxylic acid, dioctyl ester
U070	Benzene, 1,2-dichloro-
U071	Benzene, 1,3-dichloro-
U072	Benzene, 1,4-dichloro-
U060	Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro-
U017	Benzene, (dichloromethyl)-
U223	Benzene, 1,3-diisocyanatomethyl-
U239	Benzene, dimethyl-
U20	1,3-Benzenediol
U127	Benzene, hexachloro-
U056	Benzene, hexahydro-
U220	Benzene, methyl-
U105	Benzene, 1-methyl-2,4-dinitro-
U106	Benzene, 2-methyl-1,3-dinitro-
U055	Benzene, (1-methylethyl)-
U169	Benzene, nitro-
U183	Benzene, pentachloro-
U185	Benzene, pentachloronitro-
U020	Benzenesulfonic acid chloride
U020	Benzenesulfonyl chloride
U207	Benzene, 1,2,4,5-tetrachloro-
U061	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro-
U247	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy-
U023	Benzene, (trichloromethyl)-
U234	Benzene, 1,3,5-trinitro-
U021	Benzidine
U202	Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts
U278	1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate
U364	1,3-Benzodioxol-4-ol, 2,2-dimethyl-,
U203	1,3-Benzodioxole, 5-(2-propenyl)-
U141	1,3-Benzodioxole, 5-(1-propenyl)-
U367	Benzofuranol, 2,3-dihydro-2,2-dimethyl-
U090	1,3-Benzodioxole, 5-propyl-

U064	Benzo[rst]pentaphene
U248	Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations of 0.3% or less
U022	Benzo[a]pyrene
U197	p-Benzoquinone
U023	Benzotrichloride
U085	2,2'-Bioxirane
U021	[1,1'-Biphenyl]-4,4'-diamine
U073	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-
U091	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-
U095	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-
U401	Bis(dimethylthiocarbamoyl) sulfide
U400	Bis(pentamethylene)thiuram tetrasulfide
U225	Bromoform
U030	4-Bromophenyl phenyl ether
U128	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U172	1-Butanamine, N-butyl-N-nitroso-
U031	1-Butanol
U159	2-Butanone
U160	2-Butanone, peroxide
U053	2-Butenal
U074	2-Butene, 1,4-dichloro-
U143	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	n-Butyl alcohol
U392	Butylate
U136	Cacodylic acid
U032	Calcium chromate
U372	Carbamic acid, 1H-benzimidazol-2-yl, methyl ester
U271	Carbamic acid, [1-[(butylamino)carbonyl]-1H-benzimidazol -2-yl]-,methyl ester
U375	Carbamic acid, butyl-, 3-iodo-2-propynyl ester
U280	Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butynyl ester
U238	Carbamic acid, ethyl ester
U178	Carbamic acid, methylnitroso-, ethyl ester
U373	Carbamic acid, phenyl-, 1-methylethyl ester
U409	Carbamic acid, [1,2-phenylenebis (iminocarbonothioyl)]bis-, dimethyl ester
U097	Carbamic chloride, dimethyl-
U379	Carbamodithioic acid, dibutyl, sodium salt
U277	Carbamodithioic acid, diethyl-, 2-chloro-2-propenyl ester
U381	Carbamodithioic acid, diethyl-, sodium salt
U383	Carbamodithioic acid, dimethyl, potassium salt
U382	Carbamodithioic acid, dimethyl-, sodium salt
U376	Carbamodithioic acid, dimethyl-, tetraanhydrosulfide with orthothioselenious acid
U378	Carbamodithioic acid, (hydroxymethyl) methyl-, monopotassium salt
U384	Carbamodithioic acid, methyl-, monosodium salt
U377	Carbamodithioic acid, methyl,- monopotassium salt

U389	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester
U392	Carbamothioic acid, bis(2-methylpropyl)-, S-ethyl ester
U391	Carbamothioic acid, butylethyl-, S-propyl ester
U386	Carbamothioic acid, cyclohexylethyl-, S-ethyl ester
U390	Carbamothioic acid, dipropyl-, S-ethyl ester
U387	Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester
U385	Carbamothioic acid, dipropyl-, S-propyl ester
U114	Carbamodithioic acid, 1,2-ethanediylbis-, salts & esters
U062	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3- dichloro-2-propenyl) ester
U279	Carbaryl
U372	Carbendazim
U367	Carbofuran phenol
U215	Carbonic acid, dithallium(1+) salt
U033	Carbonic difluoride
U156	Carbonochloridic acid, methyl ester
U033	Carbon oxyfluoride
U211	Carbon tetrachloride
U034	Chloral
U035	Chlorambucil
U036	Chlordane, alpha & gamma isomers
U026	Chlornaphazin
U037	Chlorobenzene
U038	Chlorobenzilate
U039	p-Chloro-m-cresol
U042	2-Chloroethyl vinyl ether
U044	Chloroform
U046	Chloromethyl methyl ether
U047	beta-Chloronaphthalene
U048	o-Chlorophenol
U049	4-Chloro-o-toluidine, hydrochloride
U032	Chromic acid H2CrO4, calcium salt
U050	Chrysene
U393	Copper, bis(dimethylcarbamodithioato-S,S')-,
U393	Copper dimethyldithiocarbamate
U051	Creosote
U052	Cresol (Cresylic acid)
U053	Crotonaldehyde
U055	Cumene
U246	Cyanogen bromide (CN)Br
U386	Cycloate
U197	2,5-Cyclohexadiene-1,4-dione
U056	Cyclohexane
U129	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)-
U057	Cyclohexanone
U130	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
U058	Cyclophosphamide

U240	2,4-D, salts & esters
U059	Daunomycin
U366	Dazomet
U060	DDD
U061	DDT
U062	Diallate
U063	Dibenz[a,h]anthracene
U064	Dibenzo[a,i]pyrene
U066	1,2-Dibromo-3-chloropropane
U069	Dibutyl phthalate
U070	o-Dichlorobenzene
U071	m-Dichlorobenzene
U072	p-Dichlorobenzene
U073	3,3'-Dichlorobenzidine
U074	1,4-Dichloro-2-butene
U075	Dichlorodifluoromethane
U078	1,1-Dichloroethylene
U079	1,2-Dichloroethylene
U025	Dichloroethyl ether
U027	Dichloroisopropyl ether
U024	Dichloromethoxy ethane
U081	2,4-Dichlorophenol
U082	2,6-Dichlorophenol
U084	1,3-Dichloropropene
U085	1,2:3,4-Diepoxybutane
U108	1,4-Diethyleneoxide
U028	Diethylhexyl phthalate
U395	Diethylene glycol, dicarbamate
U086	N,N'-Diethylhydrazine
U087	O,O-Diethyl S-methyl dithiophosphate
U088	Diethyl phthalate
U089	Diethylstilbesterol
U090	Dihydrosafrole
U091	3,3'-Dimethoxybenzidine
U092	Dimethylamine
U093	p-Dimethylaminoazobenzene
U094	7,12-Dimethylbenz[a]anthracene
U095	3,3'-Dimethylbenzidine
U096	alpha,alpha-Dimethylbenzylhydroperoxide
U097	Dimethylcarbamoyl chloride
U098	1,1-Dimethylhydrazine
U099	1,2-Dimethylhydrazine
U101	2,4-Dimethylphenol
U102	Dimethyl phthalate
U103	Dimethyl sulfate
U105	2,4-Dinitrotoluene

U106	2,6-Dinitrotoluene
U107	Di-n-octyl phthalate
U108	1,4-Dioxane
U109	1,2-Diphenylhydrazine
U110	Dipropylamine
U111	Di-n-propylnitrosamine
U403	Disulfiram
U390	EPTC
U041	Epichlorohydrin
U001	Ethanal
U404	Ethanamine, N,N-diethyl-
U174	Ethanamine, N-ethyl-N-nitroso-
U155	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-
U067	Ethane, 1,2-dibromo-
U076	Ethane, 1,1-dichloro-
U077	Ethane, 1,2-dichloro-
U131	Ethane, hexachloro-
U024	Ethane, 1,1'-[methylenebis (oxy)]bis[2-chloro-
U117	Ethane, 1,1'-oxybis-(I)
U025	Ethane, 1,1'-oxybis[2-chloro-
U184	Ethane, pentachloro-
U208	Ethane, 1,1,1,2-tetrachloro-
U209	Ethane, 1,1,2,2-tetrachloro-
U218	Ethanethioamide
U226	Ethane, 1,1,1-trichloro-
U227	Ethane, 1,1,2-trichloro-
U410	Ethanimidothioic acid, N,N'-[thiobis[(methylimino)carbonyloxy]] bis-, dimethyl ester
U394	Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-1 oxo-, methyl ester
U359	Ethanol, 2-ethoxy-
U173	Ethanol, 2,2'-(nitrosoimino)bis-
U395	Ethanol, 2,2'-oxybis-, dicarbamate
U004	Ethanone, 1-phenyl-
U043	Ethene, chloro-
U042	Ethene, (2-chloroethoxy)-
U078	Ethene, 1,1-dichloro-
U079	Ethene, 1,2-dichloro-
U210	Ethene, tetrachloro-
U228	Ethene, trichloro-
U112	Ethyl acetate
U113	Ethyl acrylate
U238	Ethyl carbamate (urethane)
U117	Ethyl ether
U114	Ethylenebisdithiocarbamic acid, salts & esters
U067	Ethylene dibromide
U077	Ethylene dichloride
U359	Ethylene glycol monoethyl ether

U115	Ethylene oxide
U116	Ethylenethiourea
U076	Ethylidene dichloride
U118	Ethyl methacrylate
U119	Ethyl methanesulfonate
U407	Ethyl Ziram
U396	Ferbam
U126	Fluoranthene
U122	Formaldehyde
U123	Formic acid
U124	Furan
U125	Furancarboxaldehyde
U147	2,5-Furandione
U213	Furan, tetrahydro-
U125	Furfural
U124	Furfuran
U206	Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-,
U206	D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)-4 carbonyl]amino]-
U126	Glycidylaldehyde
U163	Guanidine, N-methyl-N'-nitro-N-nitroso-
U127	Hexachlorobenzene
U128	Hexachlorobutadiene
U130	Hexachlorocyclopentadiene
U131	Hexachloroethane
U132	Hexachlorophene
U243	Hexachloropropene
U133	Hydrazine
U086	Hydrazine, 1,2-diethyl-
U098	Hydrazine, 1,1-dimethyl-
U099	Hydrazine, 1,2-dimethyl-
U109	Hydrazine, 1,2-diphenyl-
U134	Hydrofluoric acid
U134	Hydrogen fluoride
U135	Hydrogen sulfide
U135	Hydrogen sulfide H2S
U096	Hydroperoxide, 1-methyl-1-phenylethyl-
U116	2-Imidazolidinethione
U137	Indeno[1,2,3-cd]pyrene
U375	3-Iodo-2-propynyl n-butylcarbamate
U396	Iron, tris(dimethylcarbamodithioato-S,S')-,
U190	1,3-Isobenzofurandione
U140	Isobutyl alcohol
U141	Isosafrole
U142	Kepone
U143	Lasiocarpine
U144	Lead acetate

U146	Lead, bis(acetato-O)tetrahydroxytri-
U145	Lead phosphate
U146	Lead subacetate
U129	Lindane
U163	MNNG
U147	Maleic anhydride
U148	Maleic hydrazide
U149	Malononitrile
U150	Melphalan
U151	Mercury
U384	Metam Sodium
U152	Methacrylonitril
U092	Methanamine, N-methyl-
U029	Methane, bromo-
U045	Methane, chloro-
U046	Methane, chloromethoxy-
U068	Methane, dibromo-
U080	Methane, dichloro-
U075	Methane, dichlorodifluoro-
U138	Methane, iodo-
U119	Methanesulfonic acid, ethyl ester
U211	Methane, tetrachloro-
U153	Methanethiol
U225	Methane, tribromo-
U044	Methane, trichloro-
U121	Methane, trichlorofluoro-
U036	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-
U154	Methanol
U155	Methapyrilene
U142	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one,1,1a,3,3a,4,5,5,5a, 5b,6-decachlorooctahydro-
U247	Methoxychlor
U154	Methyl alcohol
U029	Methyl bromide
U186	1-Methylbutadiene
U045	Methyl chloride
U156	Methyl chlorocarbonate
U226	Methyl chloroform
U157	3-Methylcholanthrene
U158	4,4'-Methylenebis(2-chloroaniline)
U068	Methylene bromide
U080	Methylene chloride
U159	Methyl ethyl ketone (MEK)
U160	Methyl ethyl ketone peroxide
U138	Methyl iodide
U161	Methyl isobutyl ketone
U162	Methyl methacrylate

U161	4-Methyl-2-pentanone
U164	Methylthiouracil
U010	Mitomycin C
U365	Molinate
U059	5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-3 trideoxy)-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-
U167	1-Naphthalenamine
U168	2-Naphthalenamine
U026	Naphthalenamine, N,N'-bis(2-chloroethyl)-
U165	Naphthalene
U047	Naphthalene, 2-chloro-
U166	1,4-Naphthalenedione
U236	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	1-Naphthalenol, methylcarbamate
U166	1,4-Naphthoquinone
U167	alpha-Naphthylamine
U168	beta-Naphthylamine
U217	Nitric acid, thallium(1+) salt
U169	Nitrobenzene
U170	p-Nitrophenol
U171	2-Nitropropane
U172	N-Nitrosodi-n-butylamine
U173	N-Nitrosodiethanolamine
U174	N-Nitrosodiethylamine
U176	N-Nitroso-N-ethylurea
U177	N-Nitroso-N-methylurea
U178	N-Nitroso-N-methylurethane
U179	N-Nitrosopiperidine
U180	N-Nitrosopyrrolidine
U181	Nitro-o-toluidine
U193	1,2-Oxathiolane, 2,2-dioxide
U058	2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl) tetrahydro-, 2-oxide
U115	Oxirane
U126	Oxiranecarboxyaldehyde
U041	Oxirane, (chloromethyl)-
U182	Paraldehyde
U391	Pebulate
U183	Pentachlorobenzene
U184	Pentachloroethane
U185	Pentachloronitrobenzene (PCNB)
See F027	Pentachlorophenol
U161	Pentanol, 4-methyl-
U186	1,3-Pentadiene
U187	Phenacetin
U188	Phenol
U048	Phenol, 2-chloro-

U039	Phenol, 4-chloro-3-methyl-
U081	Phenol, 2,4-dichloro-
U082	Phenol, 2,6-dichloro-
U089	Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-
U101	Phenol, 2,4-dimethyl-
U052	Phenol, methyl-
U132	Phenol, 2,2'-methylenebis[3,4,6-trichloro-
U411	Phenol, 2-(1-methylethoxy)-, methylcarbamate
U170	Phenol, 4-nitro
See F027	Phenol, pentachloro
See F027	Phenol, 2,3,4,6-tetrachloro
See F027	Phenol, 2,4,5-trichloro
See F027	Phenol, 2,4,6-trichloro
U150	L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-
U145	Phosphoric acid, lead(2+) salt (2:3)
U087	Phosphorodithioic acid, O,O-diethyl S-methyl ester
U189	Phosphorus sulfide
U190	Phthalic anhydride
U191	2-Picoline
U179	Piperidine, 1-nitroso-
U400	Piperidine, 1,1'-(tetrathiodicarbonothioyl)-bis-
U383	Potassium dimethyldithiocarbamate
U378	Potassium n-hydroxymethyl- n-methyldi-thiocarbamate
U377	Potassium n-methyldithiocarbamate
U192	Pronamide
U194	1-Propanamine
U111	1-Propanamine, N-nitroso-N-propyl-
U110	1-Propanamine, N-propyl-
U066	Propane, 1,2-dibromo-3-chloro-
U083	Propane, 1,2-dichloro-
U149	Propanedinitrile
U171	Propane, 2-nitro-
U027	Propane, 2,2'-oxybis[2-chloro-
U193	1,3-Propane sultone
See F027	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-
U235	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U140	1-Propanol, 2-methyl-
U002	2-Propanone
U007	2-Propenamide
U084	1-Propene, 1,3-dichloro-
U243	1-Propene, 1,1,2,3,3,3-hexachloro-
U009	2-Propenenitrile
U152	2-Propenenitrile, 2-methyl-
U008	2-Propenoic acid
U113	2-Propenoic acid, ethyl ester
U118	2-Propenoic acid, 2-methyl-, ethyl ester

U162	2-Propenoic acid, 2-methyl-, methyl ester
U373	Propham
U411	Propoxur
U387	Prosulfocarb
U194	n-Propylamine
U083	Propylene dichloride
U148	3,6-Pyridazinedione, 1,2-dihydro-
U196	Pyridine
U191	Pyridine, 2-methyl-
U237	2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-
U164	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
U180	Pyrrolidine, 1-nitroso-
U200	Reserpine
U201	Resorcinol
U202	Saccharin, & salts
U203	Safrole
U204	Selenious acid
U204	Selenium dioxide
U205	Selenium sulfide
U205	Selenium sulfide SeS2
U376	Selenium, tetrakis(dimethyldithiocarbamate)
U015	L-Serine, diazoacetate (ester)
See F027	Silvex (2,4,5-TP)
U379	Sodium dibutyldithiocarbamate
U381	Sodium diethyldithiocarbamate
U382	Sodium dimethyldithiocarbamate
U206	Streptozotocin
U103	Sulfuric acid, dimethyl ester
U277	Sulfallate
U189	Sulfur phosphide
See F027	2,4,5-T
U402	Tetrabutylthiuram disulfide
U207	1,2,4,5-Tetrachlorobenzene
U208	1,1,1,2-Tetrachloroethane
U209	1,1,2,2-Tetrachloroethane
U210	Tetrachloroethylene
See F027	2,3,4,6-Tetrachlorophenol
U213	Tetrahydrofuran
U401	Tetramethylthiuram monosulfide
U214	Thallium(I) acetate
U215	Thallium(I) carbonate
U216	Thallium(I) chloride
U216	Thallium chloride TlCl
U217	Thallium(I) nitrate
U366	2H-1,3,5-Thiadiazine- 2-thione, tetrahydro-3,5- dimethyl-
U218	Thioacetamide

U410	Thiodicarb
U153	Thiomethanol
U244	Thioperoxydicarbonic diamide [(H2N)C(S)]2S2, tetramethyl-
U402	Thioperoxydicarbonic diamide, tetrabutyl
U403	Thioperoxydicarbonic diamide, tetraethyl
U409	Thiophanate-methyl
U219	Thiourea
U244	Thiram
U220	Toluene
U221	Toluenediamine
U223	Toluene diisocyanate
U328	o-Toluidine
U353	p-Toluidine
U222	o-Toluidine hydrochloride
U389	Triallate
U011	1H-1,2,4-Triazol-3-amine
U227	1,1,2-Trichloroethane
U228	Trichloroethylene
U121	Trichloromonofluoromethane
See F027	2,4,5-Trichlorophenol
See F027	2,4,5-Trichlorophenol
U404	Triethylamine
U234	1,3,5-Trinitrobenzene
U182	1,3,5-Trioxane, 2,4,6-trimethyl-
U235	Tris(2,3-dibromopropyl) phosphate
U236	Trypan blue
U237	Uracil mustard
U176	Urea, N-ethyl-N-nitroso-
U177	Urea, N-methyl-N-nitroso-
U385	Vernolate
U043	Vinyl chloride
U248	Warfarin, & salts, when present at concentrations of 0.3% or less
U239	Xylene
U200	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester,(3beta,16beta,17alpha,18beta,20alpha)-
U407	Zinc, bis(diethylcarbamodithioato-S,S')-
U249	Zinc phosphide Zn3P2, when present at concentrations of 10% or less

Maximum Concentration of Contaminants for the Toxicity Characteristics			
Contaminant	**EPA Waste Code**	**CAS Number**	**Regulatory Level (mg/L)**
Arsenic	D004	7440-38-2	5.0
Barium	D005	7440-39-3	100.0
Benzene	D018	71-43-2	0.5
Cadmium	D006	7440-43-9	1.0
Carbon tetrachloride	D019	56-23-5	0.5
Chlordane	D020	57-74-9	0.03
Chlorobenzene	D021	108-90-7	100.0
Chloroform	D022	67-66-3	6.0
Chromium	D007	7440-47-3	5.0
o-Cresol	D023	95-48-7	200.0
m-Cresol	D024	108-39-4	200.0
p-Cresol	D025	106-44-5	200.0
Cresol	D026	---	200.0
2,4-D	D016	94-75-7	10.0
1,4-Dichlorobenze	D027	106-46-7	7.5
1,2-Dichloroethane	D028	107-06-2	0.5
1,1-Dichloroethylene	D029	75-35-4	0.7
2,4-Dinitrotoluene	D030	121-14-2	0.13
Endrin	D012	72-20-8	0.02
Heptachlor	D031	76-44-8	0.008
Hexachlorobenzene	D032	118-74-1	0.13
Hexachlorbutadiene	D033	87-68-3	0.5
Hexachloroethane	D034	67-72-1	3.0
Lead	D008	7439-92-1	5.0
Lindane	D013	58-89-9	0.4
Mercury	D009	7439-97-6	0.2
Methoxychlor	D014	72-43-5	10.0
Methyl Ethyl Ketone	D035	78-93-3	200.0
Nitrobenzene	D036	98-95-3	2.0
Pentachlorophenol	D037	87-86-5	100.0
Pyridine	D038	110-86-1	5.0
Selenium	D010	7782-49-2	1.0
Silver	D011	7440-22-4	5.0
Tetrachloroethylene	D039	127-18-4	0.7
Toxaphene	D015	8001-35-2	0.5
Trichloroethylene	D040	79-01-6	0.5
2,4,5-Trichlorophenol	D041	95-94-4	400.0
2,4,6-Trichlorophenol	D042	88-06-2	2.0
2,4,5-TP (Silvex)	D017	93-72-1	1.0
Vinyl chloride	D043	75-01-04	0.2

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	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									P H	P H	P H	P H	P H					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,F G	H 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	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 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

Hazardous Wastes				
US EPA Code	**Chemical/Product**	**Department**	**Container**	**Comments**
D001	Ethanol (solvent)	Physical Plant	DOT-approved plastic or metal containers	Stored in flammable storage cabinets
	Isopropanol (solvent)	Physical Plant		
	Naphtha (solvent)	Physical Plant		
	Ethylene dichloride (solvent)	Physical Plant		
	Manganese dioxide	Chemistry		
	Propionic Acid	Chemistry		
	Petroleum distillates	Physical Plant		
	Ether	Chemistry		
	Hexane	Chemistry		
	Zinc nitrate	Chemistry		
	Potassium iodate	Chemistry		
	Ethylene glycol	Physical Plant		
D002	Hydrochloric Acid	Chemistry	Polyethylene or glass bottle	Segregate acids from bases
	Potassium hydroxide	Chemistry		
	Lead iodide/lead sulfide mix	Chemistry		
	Sodium hydroxide	Chemistry		
	Phosphoric acid	Chemistry		
	Sulfuric acid	Chemistry		
	Benzoic acid	Chemistry		
	Soda ash	Physical Plant		
	Copper chloride	Chemistry		
D003	Potassium permanganate	Chemistry	Polyethylene or glass bottle	
	Hydrogen peroxide	Chemistry		
	Sodium sulfide	Chemistry		
	Sodium methylate	Chemistry		
	Sodium hypochlorite	Chemistry		
D005	Barium	Chemistry	Polyethylene or glass bottle	
	Barium nitrate	Chemistry		
D006	Cadmium	Chemistry	Glass bottle	
D007	Chromium	Chemistry	Polyethylene or glass bottle	
	Chromium sulfate	Chemistry		
	Potassium dichromate	Chemistry		

D008	Lead	Chemistry	Polyethylene or glass bottle	
	Lead acetate	Chemistry		
	Lead nitrate	Chemistry		
D009	Mercury	Chemistry	Polyethylene or glass bottle	
	Mercury nitrate	Chemistry		
D011	Silver	Chemistry	Polyethylene or glass bottle	Recovered from developing process
	Silver	Photo Lab		
	Silver nitrate solution	Chemistry		
	Silver iodide	Chemistry		
F001	Carbon tetrachloride (solvent)	Physical Plant	Polyethylene or glass bottle	
	Tetrachloroethylene (solvent)	Physical Plant		
F002	Dichlorobenzene	Chemistry	Glass bottle	
F003	Acetone	Physical Plant	DOT-approved plastic or metal containers	
	Acetone	Chemistry		
	Methanol	Chemistry		
	Ethyl ether	Chemistry		
	Ethyl acetate	Chemistry		
	Ethyl benzene	Chemistry		
	Xylene	Chemistry		
F005	Toluene	Chemistry	DOT-approved plastic or metal containers	
	Methyl Ethyl Ketone	Chemistry		
	Benzene	Chemistry		
U170	p-Nitrophenol	Chemistry	DOT-approved plastic or metal containers	

Universal Wastes		
Material	**Department**	**Comments**
Batteries	Physical Plant	Managed/recycled as Universal Waste
Mercury thermostats	Physical Plant	Managed/recycled as Universal Waste
Lamps	Physical Plant	Managed/recycled as Universal Waste
Mercury-containing devices	Physical Plant; Biology; Chemistry; Human Performance Laboratory	Managed/recycled as Universal Waste

Biohazard/Infectious Wastes		
Material	**Department**	**Comments**
Miscellaneous medical waste	Nursing Lab	Stored in red biohazard bags and removed on 30-day cycles
Miscellaneous medical waste	Athletic Trainers	

Miscellaneous Wastes		
Material	**Department**	**Comments**
Laboratory specimens	Biology	Placed in municipal waste stream
Paint cans	Physical Plant; Art; Theatre	Placed in municipal waste stream after meeting definition of RCRA-empty
Aerosol cans	Physical Plant; Art; Theatre	Placed in municipal waste stream after meeting definition of RCRA-empty
Asbestos	Physical Plant	Double bagged in 6-mil plastic; will be managed as a hazardous waste
Used Oil	Physical Plant	Recycled through reclamation facility

HAZARDOUS WASTE COMPLIANCE CHECKLIST

Contractor: _____

Arrive on Time?: _____

Date Scheduled _____ **Date Arrived _____**

Time Scheduled _____ **Time Arrived _____**

Place Scheduled _____ **Place Arrived _____**

Names of Workers **Names of Workers**

_____ _____

_____ _____

_____ _____

	YES	NO
In storage < 90 days?	_____	_____
Visible spills or leaks?	_____	_____

PACKAGING

Items packaged in US DOT containers?	_____	_____
US DOT Labels attached & complete?	_____	_____
Packages itemized on manifest?	_____	_____
(2) Technicians clean shaven / respirator approved?	_____	_____
Security barriers present?	_____	_____
Technician tests for background levels of		
Oxygen	_____	_____
Combustible Vapors	_____	_____
Organic Vapors		

TRANSPORTATION	**YES**	**NO**
Vehicle placarded on 4 sides?	_____	_____
Vehicle Emergency Kit		
2 4A:80B:C Fire Extinguisher	_____	_____
2 Sets PPE (20 min. Breakthrough)	_____	_____
1 Eyewash Station	_____	_____
1 First Aid Kit	_____	_____
Emergency Communication System	_____	_____
Absorbent material (contain 5% wastes)	_____	_____
Transporter Certificate of Training?	_____	_____
Transporter Commercial Vehicle License?	_____	_____
Approved Permit Status?	_____	_____
Manifest Complete?	_____	_____

Contract Administrator:

_____	_____	_____
Print Name	**Signature**	**Date**

Contract Representative:

_____	_____	_____
Print Name	**Signature**	**Date**