

Safety & Risk Management Policies and Procedures

Title: Hazardous Waste Policy

Date: October 2013

Rationale: Federal & State regulations require hazardous waste generators to adopt and certify a waste minimization policy.

Goals: Southwestern University has developed this written hazardous waste policy in order to effectively:

- Manage our campus-wide chemical inventory
- Protect human health and safety
- Reduce the impact on the environment with an emphasis on recycling
- Reduce disposal costs with an emphasis on reducing use of hazardous chemicals
- Enhance regulatory compliance through education and audits

Policy:

- Individual waste generators are responsible for reviewing, keeping current with, and implementing the hazardous waste policy requirements. Refer to Safety Website or contact the Safety and Risk Management Office on at least an annual basis to review updated policy changes.
- Department Heads/Chairs are responsible to notify Safety and Risk Management Office when new faculty or staff members (who handle chemicals or chemical products) are hired to arrange for a hazardous waste and hazard communication orientation training session.
- In order to help ensure that the components of our hazardous waste policy are being met, safety audits will be conducted on a periodic basis by the Safety and Risk Management Office or our Insurance Representatives. Department Heads/Chairs should help ensure (individual generators) conduct their own self-audit on an annual basis. Self-audit reports should be forwarded to the Safety and Risk Management Office for review.
- Non-compliance issues identified must be promptly addressed (within one week) by the individual waste generator. The Department Head/Chair is responsible to work with individual faculty/staff to help ensure and document corrective actions and act as a liaison with the Safety & Risk Management Office. Corrective actions should be documented in Safety-Reports safety audit system.

Procedures:

- This procedure will cover crucial information regarding how the University attempts to minimize waste disposal, how to classify a material as hazardous, the requirements for labeling, where to store hazardous waste, and the hazardous waste audit form.

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Hazardous Waste Minimization Policy

- Federal & State regulations require hazardous waste generators to adopt and certify a **waste minimization policy**. Our policy requires all Department generators to:
 - Create a purchasing procedure and an effective inventory system to verify use of all existing departmental inventory before ordering and ensure dating of chemicals/materials upon receipt.
 - Develop a departmental policy to ensure the identification and clean-out of all hazardous chemicals and/or (unwanted materials) prior to faculty/staff leaving the University for sabbatical or permanently.
 - Review current uses and practice product elimination **or** substitute for non-hazardous or less toxic chemicals or materials whenever feasible (ex. replace all mercury instruments with mercury free alternatives, wet photography to digital, aerosol can to spray bottle).
 - Reduce chemical volume to micro-scale whenever feasible - update lab manuals.
 - Offer and transfer unused stock chemicals or materials to other departments or organizations (follow external transfer procedures).
 - Order and stock a maximum of one year's supply of chemicals, buy the smallest quantity possible for intended use, and reorder when necessary for use – it is much less expensive to reorder and ship than it is to dispose of as a hazardous waste.
 - Eliminate “unknowns by properly labeling all chemical containers including secondary containers.
 - **Peroxide forming chemicals:** Add date received, first opened date, and note expiration date on all explosive or peroxide forming chemical containers (ethers, dioxane, tetrahydrofuran, etc). Test for peroxides during storage periods when approaching expiration date (log results) and transfer to waste disposal area within manufacturer's expiration date or recommended safe storage periods listed in *Prudent Practices in the Laboratory*, National Research Council. Add warning label to peroxide forming chemical containers if disposal is beyond the expiration date. Purchase only ethers or other peroxide formers with BHT or appropriate stabilizers in order to reduce the risk of explosive forming crystals. Aluminum bottles are preferred for ethers.
- Treat/recycle hazardous materials to non-hazardous status whenever feasible by:
 - Neutralize and drain dispose acids/bases that are not contaminated with toxic materials (metals prohibited from drain disposal & land bans).

- Decontaminate empty chemical containers - triple rinse unless it is a P Listed waste – the entire container must be disposed of as acutely hazardous waste.
- Recycle/reclaim acids or solvents for reuse if feasible (review treatment alternatives).
- Precipitate and remove toxic land ban metals (filtering) from aqueous wastes/salts, neutralize remaining if acid/base solution and drain dispose.

SUMMARY PROCESS TO MANAGE YOUR HAZARDOUS WASTE

Summary process to help you properly manage your chemicals and hazardous waste. Individual waste generators are responsible to manage their hazardous waste streams in compliance with federal and state regulations. This summary documents the steps to help you manage your waste, improve safety conditions and stay in compliance.

- Determine if your waste is a “hazardous waste” – use the hazardous waste determination chart and policy document for resources and reference information.
- Document your waste stream determination on the WSD Google Drive on an on-going or at least annual basis – see your department chair or WSD staff person.
- Label spent waste containers with full chemical name(s) prior to first pour with Hazardous Waste label – www.southwestern.edu/safety : *Lab Safety & Hazardous Waste: Forms*
- Keep container cap closed at all times, maintain container in very good condition with label legible.
- Maintain proper storage – always use secondary containment - separate incompatibles.
- Never allow chemical containers to be unlabeled. Unknown/unlabeled chemicals present a safety hazard and cost the University at least five times the amount of a properly labeled container.
- Perform weekly visual inspection of hazardous waste areas and all container conditions and correct all deficiencies (leaks, spills, waste containers not in secondary containment, etc.).
- Complete proper hazardous waste disposal form – then transfer to central storage area. For some Universal Waste you may submit a Schooldude work order for Physical Plant to pick up your waste for processing. This includes aerosol cans, rechargeable batteries, mercury containing bulbs/lamps, liquid paints.
- Maintain compliance with the hazardous waste minimization policy (page 3 of policy).
- Review, refer to and maintain compliance with Southwestern’s Hazardous Waste Policy.

Is your waste a “Hazardous Waste”?

Hazardous waste is defined as having one or more of the following characteristics:

- **EPA Listed Wastes**

- F list - nonspecific source wastes (spent solvent wastes)
- P list - acutely hazardous chemical products - unused/surplus materials in pure chemical form close to 100% (examples: sodium cyanide, acrolein)
- U list - unused/surplus chemical products (examples: acetone, benzene, methanol)

- **Characteristic Waste (if any of the following characteristics apply):**

- **Ignitable** - D001 - wastes that can ignite and create fires: flash point less than 140 °F for liquid wastes, or solid wastes that can ignite spontaneously or via friction or by contact with moisture. Exception – aqueous alcohol solutions containing < 24% alcohol by volume may be drain disposed if no other hazardous properties are present.
- **Reactive** - D003 - wastes that can cause fires, explosions, gases, fumes when mixed with water, air or other chemicals or when heated or struck (shock sensitive)
- **Corrosive** - D002 - strong acids or bases which are capable of corroding metal.
RCRA hazardous waste is defined as pH <2 or > than 12.5, however, Brazos River Authority (Georgetown Sewer Treatment Plant) only allows drain disposal of between 6 – 9 pH. So, even though it is not technically a RCRA hazardous waste it needs to be treated as if it is.
- **Toxicity characteristic or toxic**- D004 – D043 – see TCLP table - (LD50 less than 50 mg/KG oral rat) or wastes that may be likely to leach toxic concentrations of chemicals into the soil/groundwater that can cause environmental damage at disposal

sites (heavy metals, benzene, vinyl chloride, chloroform, etc.) – those that would not pass a TCLP test for the chemicals listed.

- **Inherently waste-like** - unused stock surplus chemicals that have been in inventory for years, may be outdated/ expired, corroded, loose lids, evidence of nonuse for years and considered “unwanted or unusable” **and** meet the characteristic waste definitions.

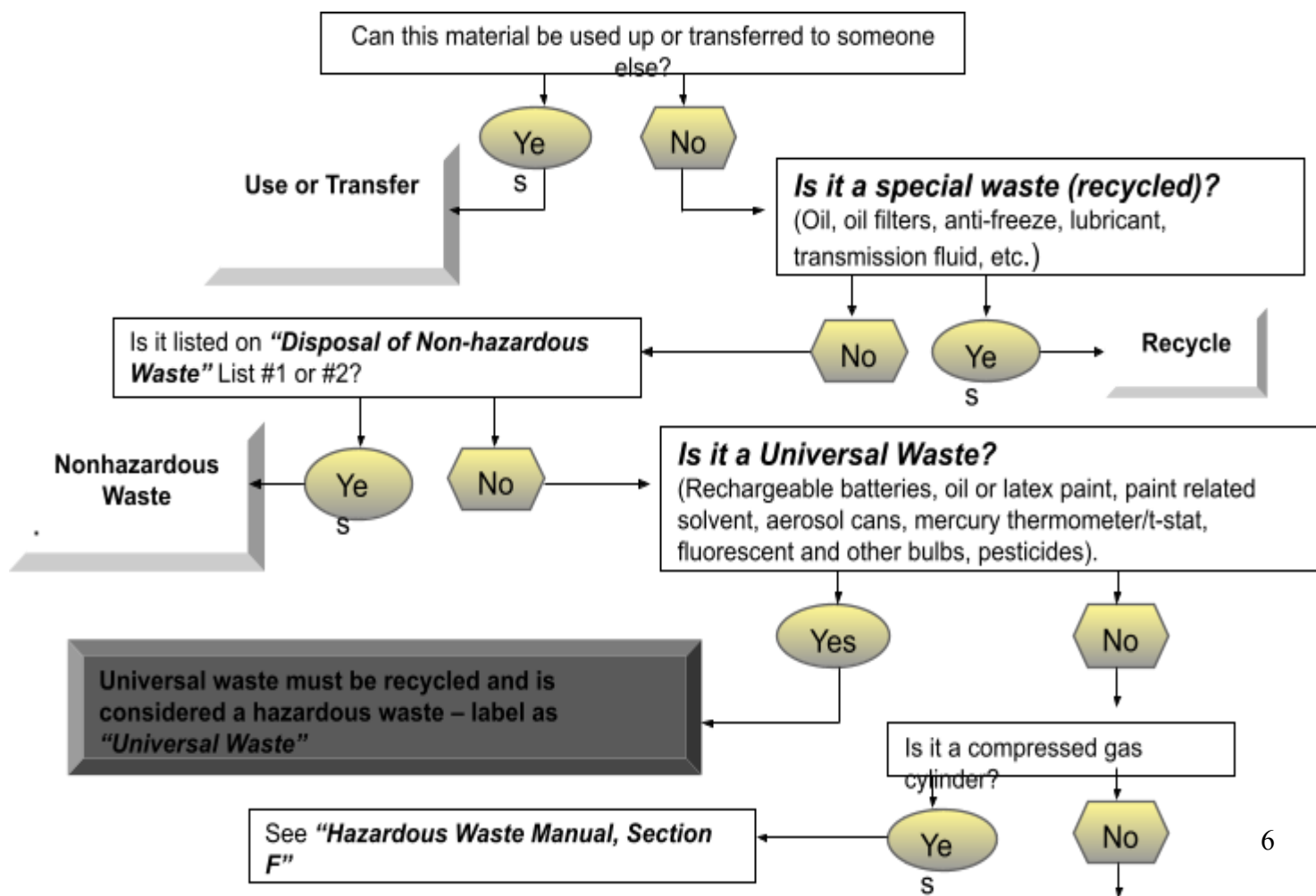
Determination of “hazardous waste” is the responsibility of the individual waste generator. The “Is Your Waste: Hazardous Waste?” decision chart should be carefully reviewed to ensure your waste determination is correct. Please refer to EPA specific criteria for ignitable, reactive, corrosive, toxic definitions. Many chemicals can be disposed of as non-hazardous at no cost (in the trash or drain disposed), great care should be exercised to review the non-hazardous lists before just designating all waste as hazardous waste.

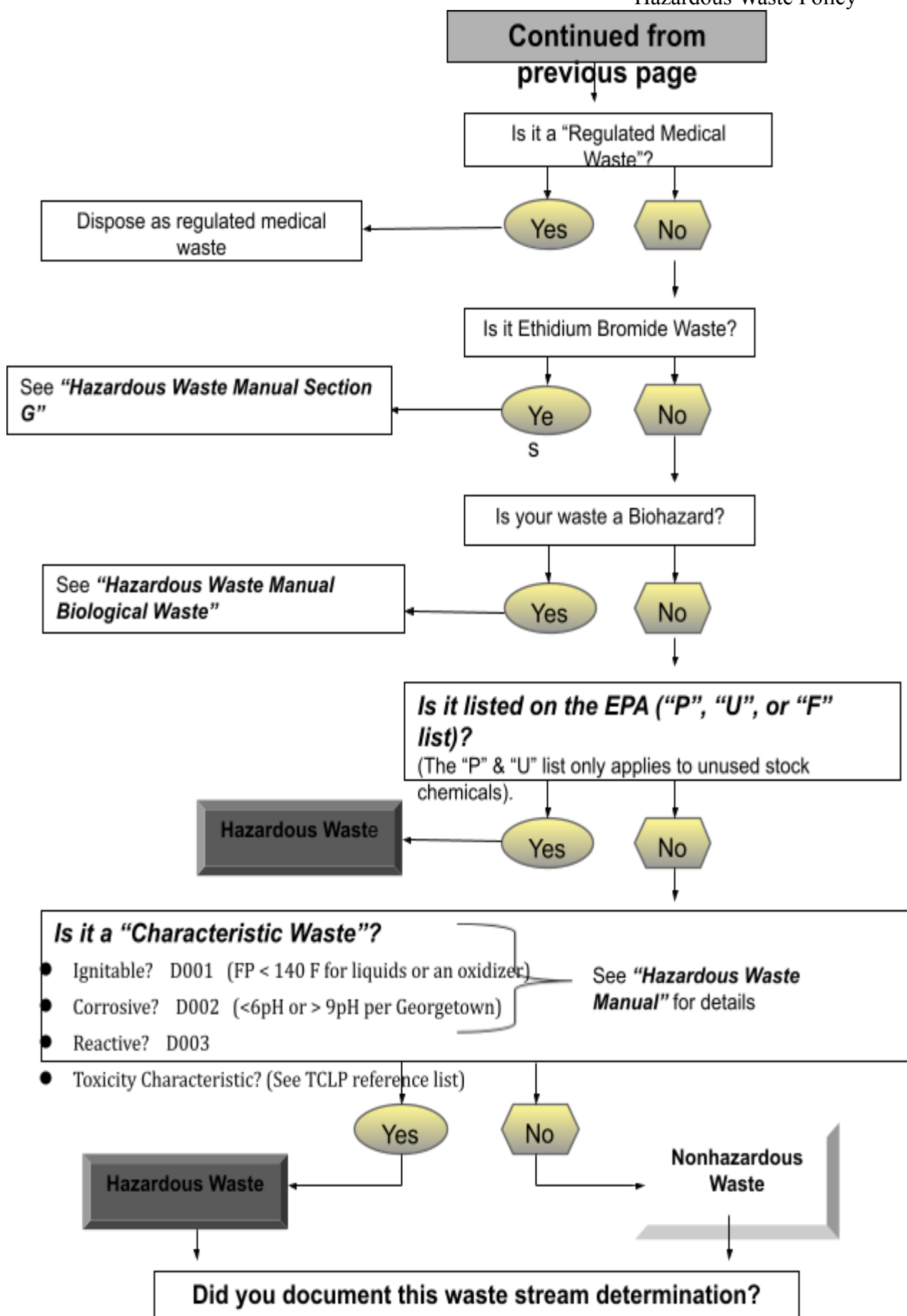
Hazardous Waste Determination Guide

- To determine if your waste is a hazardous waste, use all of the following references. The Southwestern University flowchart is an attempt to summarize the complex EPA definitions and hazardous waste identification process. You will likely have to review the enclosed references for a full determination of your waste.

Waste Stream Determination Chart - Is your Waste “Hazardous Waste”?

This is a quick guide only – please refer to “Hazardous Waste Determination Reference Guide”





Labeling Requirements

All hazardous waste must have this label:

Room #:	Instructor:
Hazardous Waste	
Start Date:	End Date:
Waste Components and %	
<u>Dichloromethane</u> 80%	
<u>Chloroform</u> 20%	
<input type="checkbox"/> Flammable/Ignitable	<input type="checkbox"/> Oxidizer
<input type="checkbox"/> Toxic/Poison/Carcinogen	<input type="checkbox"/> Pyrophoric
<input type="checkbox"/> Corrosive	<input type="checkbox"/> Water Reactive
<input type="checkbox"/> Irritant	

- Labels are available at the Safety Web Site: www.southwestern.edu/safety
- Click on “Lab Safety and Hazardous Waste,” then “Labels”
- Labels will be available in various sizes using Avery Labels
- The start date is the date when the first waste is poured into the container. The end date is when the container is full and/or transported to the main hazardous waste storage area (Room 305 FJS). The “end date” is the RCRA start date for accumulation time in the main storage area. Waste containers that become full during the semester should be dated and transported the main storage area during the semester. Please do not wait until May/June of each year to complete the hazardous waste process or to date the labels. This practice causes all waste to be generated in the same month.

Unlabeled Containers - “Unknowns”

- Please make certain there are no unlabeled containers. Costs of identifying and analyzing unknown (unlabeled) chemicals may be charged back to the Department. Each Department is responsible to create a lab/studio chemical clean-out written procedure prior to faculty retirement or departure.

Closed Container Rule & Control

Each generator is responsible for having control of all hazardous waste and ensuring proper procedures are used in their lab or area.

- Safe storage
- Clean uncontaminated container
- Properly labeled & legible
- Tightly capped at all times (except when pouring waste)
- Waste must be at or near the point of generation and under control of the “generator”

Waste containers venting to atmosphere is prohibited by law & pollutes the air



NOTE: Potential EPA Violations

Laboratories/Departments that do not follow the requirements of the hazardous waste program may be held financially responsible for offsetting the EPA/OSHA fines.

Weekly Inspections - EPA Required

- Containers in satellite storage areas should be under the control of the generator (these containers should be monitored and inspected continuously. Containers in the central storage areas (FJS RM 305 and Physical Plant Warehouse) must be inspected weekly by staff/faculty specifically assigned to this task (log the inspections) to ensure that they are properly labeled, in good condition, and meet other criteria (closed container, not leaking, properly stored, segregated and transported in secondary containers). Departments are responsible to maintain a written log of inspections.

Storage & Segregation Guide

The safe storage and segregation of hazardous chemicals and hazardous waste is the responsibility of each generator/department. The following is suggested practices for proper storage of hazardous waste streams/types. Individuals/departments should refer to *Prudent Practices in Laboratories*, National Research Council, and/or *Safety in Academic Chemical Laboratories*, American Chemical Society, to implement safe chemical storage practices.

- **Flammables/Solvents** (alcohols, benzene, toluene, xylene, acetonitrile)
 - Store in flammable storage cabinet

- Separate and label as halogenated vs. non-halogenated (solvents).
- Halogenated: methylene chloride, chloroform, carbon tetrachloride
- Non-halogenated: xylene, toluene, alcohol
- Combine compatible solvents (do not combine halogenated with non-halogenated) in drums after delivery to the hazardous waste storage area. List individual solvents and percent of solution.
- **Acids**
 - As a general rule, separate oxidizing acids[nitric, chromic, sulfuric] and hydrocyanic acid from all other acids - use secondary containers. Most acids not contaminated with heavy metals should be neutralized and drain disposed.
 - Organic acids: formic, lactic
 - Inorganic acids: hydrochloric, sulfuric, nitric, and phosphoric
- **Bases**
 - Separate from acid storage. Most bases not contaminated with heavy metals should be neutralized and drain disposed.
 - Hydroxides, Carbonates, Bicarbonates: ammonium, calcium, potassium, and sodium
- **Oxidizers**
 - Separate from flammables by use of oxidizer cabinet
 - Liquid oxidizers
 - Hydrogen peroxide, nitric acid, perchloric acid, bromine, sulfuric acid, chromic acid, water
 - Solid oxidizers
 - Nitrates, nitrites, perchlorates, peroxides, chromates, picrates, permanganates, hypochlorites, bromates, chlorites, chlorates
- **Metals (toxic land ban) & Poisons**
 - Soluble compounds / solutions of: arsenic, barium, cadmium, chromium, copper, lead, zinc, molybdenum, nickel, selenium, silver, thallium, etc. **Separate mercury by itself.**
- **Reactives** - explosive, unstable, very reactive with water or other materials (heat/shock)
 - Chromic acid, cyanides, sulfides, hypochlorite, organic peroxides, perchlorates, calcium/sodium oxide, sodium amide, fluorine, hydrides, calcium carbide, aluminum alkyls, calcium oxide, fluorine, picric acid, arsine, silane.

- Separate reactive acids (chromic) from perchlorates and peroxides
- Separate peroxide formers – ethers, picric acid, tetrahydrofuran, sodium amide, and vinyl acetate (explosive hazards) - remove all expired stock prior to expiration
- Separate cyanides and hypochlorite from acids **Metals**.

Storage & Transportation Guide

- Waste containers should be stored under the fume hood in the storage cabinet – not inside the hood itself unless it is a small container and does not impact the effectiveness of the fume hood.
- All hazardous waste containers must be stored and transported in suitable **secondary containment**.



Acceptable secondary containment for storage.

Satellite Storage Areas must be designated

- Satellite Storage Area is the location the generator designates to temporarily store hazardous waste until it is full and transported to the Hazardous Waste Storage Area (Rm 305). This area must be under the direct control of the generator. As soon as the waste container is almost full, it needs to have the “end date” filled in and transported to the central storage area RM 305.
 - Satellite storage areas can be designated by using the campus-wide standard color hazardous waste secondary container trays and a Satellite Accumulation Area label attached to the secondary container.

Southwestern University

HAZARDOUS WASTE

Satellite Accumulation Area

Fully Label and Date Waste

www.southwestern.edu/safety

“Laboratory Safety & Hazardous Waste”

Non-Regulated Chemicals

Drain Disposal for Liquids

Chemistry:

- Properly neutralized acids/bases between 6 pH to 9pH, which are not contaminated with heavy metals/salts per Brazos River Authority guidelines.
- A maximum of 1 gal of neutralized acid/base can be drain disposed per day followed by a minimum a few minutes of flushing with tap water.
 - Neutralize slowly in a fume hood with sash lowered, wear appropriate personal protective equipment.
 - Acids - slowly stir/add acid to larger water solution containing base
 - Suggestion: (calcium hydroxide)
 - Base - add base to larger container containing cool water, slowly add acid suggestion: (hydrochloric acid) to neutralize.
 - Aqueous alcohol solutions with < 24% alcohol can be drain disposed.

Biology:

- Holding solutions (preservatives) propylene glycol solution and methanol solution (Wardsafe and Carosafe) may be disposed of in sanitary sewer at a rate of 2 gals per day with a few minutes of flushing with tap water per Brazos River Authority guidelines.

Photography:

- Photo developers mixed with stop bath solution (neutralized pH between 6 - 9) can be drain disposed and flushed with tap water for 5 minutes. Toner solutions can be drain disposed with a 5 minute flush – two part solutions must be neutralized prior to drain disposal.
- Do not drain dispose used photo fixer or bath washing agent (due to silver contamination).
- See Art and Photography page 21-24

Drain disposal is intended for sanitary sewer lines only.

Disposal of “Empty Chemical Containers”

- Generator is responsible for triple rinsing empty containers of hazardous chemicals with water (if water soluble) or appropriate solvent (solvent must be collected as hazardous waste).
- **Do not rinse P listed waste containers**, the entire container must be collected as hazardous waste. Great care should be exercised when ordering a P Listed chemical or when collecting a P Listed waste to keep the container size as small as possible.
- Cross out original label with black marker, place your initials legibly on container along with the words: **Triple rinsed – empty container**

- Remove and discard caps

Disposal of Non-Regulated Solid Chemicals

- Each lab/generator is responsible for packaging non-hazardous (non-regulated) solid chemicals in a cardboard box.
- Seal box when ready for pick-up on top and bottom with secure tape.
- Label box with permanent marker: **Non-Regulated Solid Waste**

Compressed Gas Cylinders – Lecture Bottles

Introduction

- Hazardous waste disposal of compressed gas cylinders that cannot be returned to the supplier or manufacturer can cost from \$100 per cylinder for inert gases, to over \$1,000 each for unusual or toxic gases.
- Researchers and other users are asked to only purchase cylinders from companies that accept them for return. Larger cylinders purchased from our current cylinder vendor are generally not a problem, however certain specialty gases purchased as lecture bottles have been.
- Your cooperation in following these procedures will be helpful in managing compressed gasses and avoiding the overwhelming costs for disposal.

Purchasing Guidelines

- Please purchase your compressed gas in a returnable and/or refillable lecture bottle or cylinder. Many vendors have developed alternatives to lecture bottles. Contact your sales representative to learn more about these alternatives.

Gas Cylinder Returns

- Each user/department is asked to contact the manufacturer or vendor of the lecture bottle to confirm their policy on returns. The following companies are currently known to take back their lecture bottles: Air Products, Aldrich, American Environmental Instruments, Cambridge Isotope Labs, Farchan Laboratories, Matheson, MG Industries, Morton International, Ozark Mahoning, PCR Research Chemicals, Pfaltz and Bauer, Scott Specialty Gases and Spectra Gases. Each of these companies has special requirements for accepting

lecture bottles for return so it will be necessary for you to contact them to follow their specific procedure.

Hazardous Waste Disposal

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

Ethidium Bromide Waste Disposal

Ethidium bromide is a potent mutagen and has toxic properties that may present a long-term hazard if it is poured down the drain untreated or placed in the trash.

- **Electrophoresis Gels**
 - Trace amounts of ethidium bromide in gels should not pose a hazard. Higher concentrations, e.g., when the color of the gel is dark pink or red, should not be placed in laboratory trash.
 - < 0.1% - dry the gel in a fume hood - place in laboratory trash (non-hazardous).
Verification: materials that do not fluoresce under UV light may be disposed of directly in the trash.
 - > 0.1% - dispose of as hazardous waste (zip lock bag with ethidium bromide label as Ethidium Bromide - Mutagen)
- **Ethidium Bromide Solutions**
 - Aqueous solutions should be filtered to collect the mutagenic dye (ethidium bromide). Filtered solutions containing <10ug/ml ethidium bromide can be released to the drain. Verification: solutions that do not fluoresce under UV light may be disposed of down the sanitary sewer with plenty of flushing.
 - Solutions containing heavy metals, organics, solvents, cyanides or sulfides should be disposed as hazardous waste.

- The contaminated filter (charcoal – tea bag) must be disposed as hazardous waste.
- **Ethidium bromide solids (powder):**
 - < 10 µg/ml may be placed in plastic zip lock bags and discarded in the trash (non-hazardous). Verification: materials that do not fluoresce under UV light may be disposed of directly in the trash.
 - 10 µg/ml - dispose of as hazardous waste – label as Ethidium Bromide - Mutagen.
- **Gloves, Equipment and Debris**
 - Gloves, test tubes, paper towels, etc., that are grossly contaminated with ethidium bromide should be disposed of as hazardous waste.
 - Trace contamination < 0.1 % can be disposed of in lab trash

Filtration Process: The Green Bag



A charcoal filtration method is the Green Bag, manufactured by BIO 101. One kit has the capacity to remove 500 mg of ethidium bromide from solutions (10mg EtBr/bag).

- Place the Green Bag into the ethidium bromide solution.
- Allow to sit overnight – periodically stir solution.
- Pour de-stained filtrate down the drain with plenty of flushing.
- Dispose of the Green Bag: **LABEL as “Ethidium Bromide – Mutagen.”** There is no RCRA waste code – it is a Non-RCRA hazardous waste.
- Green Bags are available through BIO101 (www.bio101.com).







Art & Photography Waste Disposal Guide


Developer and Stop Bath

Chemical Product	Hazardous Agent	Safety Logo	Control Measure - PPE	Disposal Technique	Exposure Limits
Kodak HC 110	Diethanolamine	<p>pH 9</p>  	respiratory irritation	Mix with equal parts stop bath	diethanolamine - 2 mg/m3
Film developer	Hydroquinone		mild corrosive - avoid eye/skin contact		hydroquinone -
	2-aminoethanol		allergic skin reaction	drain dispose	2mg/m3
			potential : use tongs	Mixture pH 6.6	2-aminoethanol -

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					3ppm 6ppm stel
Kodak Polymax T	Hydroquinone	pH 10.6	mild corrosive - avoid eye/skin contact	Mix with equal parts stop bath	hydroquinone - 2mg/m3
paper developer	diethylene glycol		allergic skin reaction	drain dispose	diethylene glycol -
			potential : use tongs	mixture pH 6.5	50ppm
					
Kodak Indicator	acetic acid	pH 2.5	corrosive - avoid eye/skin contact	Mix with equal parts developer	acetic acid vapor - 10 ppm OSHA, TLV
stop bath		 	Acid Vapor - avoid breathing by use of	drain dispose	
			source capture		
			Ventilation		

Fixers

Chemical Product	Hazardous Agent	Safety Logo	Control Measure - PPE	Disposal Technique	Exposure Limits
Kodak Rapid Fixer	Ammonium Thiosulfate		corrosive - avoid eye/skin contact	Hazardous Waste (Ag)	NH3 - 50 ppm OSHA; 25ppm TLV
Part A	Acid mixture		Allergic skin reaction		acids - 10 ppm

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Hazardous Waste Policy

	(ammonia gas)		potential : use tongs		SO2 - 5 ppm
	(acid vapors)		Gas/Vapor: use source		OSHA; 2ppm TLV
	(sulfur dioxide gas)		Capture ventilation to		
	(Nox) - oxides of N)		reduce exposure		
Sprint Speed Fixer	Ammonium		Respiratory & skin	Hazardous Waste	NH3 - 50 ppm
	Thiosulfate		irritant-can cause	(Ag)	OSHA; 25ppm TLV
	Acid mixture		severe asthma attacks		acids - 10 ppm
	(ammonia gas)		Gas/Vapor: use source		SO2 - 5 ppm
	(acid vapors)		Capture ventilation to		OSHA 2ppm TLV
	(sulfur dioxide gas)		reduce exposure		
	(Nox) - oxides of N				
Sprint Fixer Remover	ethylene glycol		prevent skin contact	Hazardous Waste	na - 50 ppm ceiling*
	Mix			(Ag)	
Orbit Bath	not considered			Hazardous Waste	
Washing Agent	Hazardous			(Ag)	


Toner Solutions

Chemical Product	Hazardous Agent	Safety Logo	Control Measure - PPE	Disposal Technique	Exposure Limits




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Berg Rapid RC Sepia	hydrochloric acid -	  	Bath 1 mild acid	Drain dispose	
	Bath 1		Bath 2-severe corrosive-	Bath 1:5 min. flush	
	sodium hydroxide-Bath 2*		avoid eye/skin contact	Drain dispose	
	Thiocarbamide		animal carcinogen	Bath 2 after	
	(hydrogen sulfide gas)		Mix in well ventilated area	neutralizing pH	
			do not mix bath 1	Flush 5 min.	
			with bath 2!!		
Berg GoldenYellow	Part A - hydrochloric acid		Do Not Mix Part A with B	Drain dispose with	
Toning Solution	B - potassium ferricyanide			5 min flush after	
				each Bath	
Kodak Sepia Toner	A: potassium bromide		Part A&B - avoid acids	Part A-Drain Dispose	
	potassium ferricyanide		causes cyanide gas		
	Part B: sodium		Part B: pH > 12- avoid	Part B - neutralize	
	Sulfide		eye/skin contact	pH then drain	
				dispose	
					
Toners - general	potassium ferricyanide		avoid acids: cause		
			cyanide gas!!		
Berg Selenium Toner	Ammonium		no data available	Drain Dispose - 5	
	Selenosulfate		avoid contact with acids	min flush	
			avoid eye/skin contact		
Kodak Rapid	Ammonium		avoid eye/skin contact *	Keep lid tight to	0.2 mg/m3 - sodium
Selenium Toner	Thiosulfate		avoid spilling on clothing	prevent water loss	selenite
	sodium sulfite		drying can cause fire !	fire hazard - store	

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	sodium selenite * - toxic !		avoid acids and bases-	away from acids	
			Fire	and bases	
				Drain Disposal	

Miscellaneous

Chemical Product	Hazardous Agent	Safety Logo	Control Measure - PPE	Disposal Technique	Exposure Limits
Edwal No Scratch	Turpentine		solvent vapors - reduce	Hazardous Waste	100 ppm OSHA, TLV
	2-propanol		inhalation		
			caution - flammable		
Promount Adhesive	vinyl acetate		glue vapors - reduce	Hazardous Waste	10,000 ppm OSHA
	vinyl acrylic polymer		inhalation	dry glue - trash	
Bestine Solvent	Heptane		solvent vapors - reduce	Hazardous Waste	400 ppm OSHA, TLV
& Thinner			inhalation		
			caution - very flammable		
Best Test	Heptane		solvent vapors - reduce	Hazardous Waste	400 ppm OSHA, TLV
			inhalation		
Paper Cement			caution-very flammable		
MK 50 Photomask	Toluene		solvent vapors - reduce	Hazardous Waste	100 ppm OSHA, TLV
	Butanone		inhalation		
			caution-very flammable		200 ppm OSHA

Symbol Key

Safety & Risk Management Policies and Procedures
Hazardous Waste Policy



avoid skin contact
long term toxic affects



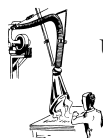
chemically reactive
store separately



flammable material
store in flammable
storage cabinet



corrosive material (acid or base)
avoid skin/eye contact - wear
PPE goggles/safety glasses



use source capture ventilation

Gloves appropriate for solution (nitrile for most solutions) – check label/MSDS to verify type

PH Test of Photography Chemicals for Drain Disposal Authorization

Chemical	pH - known	estimate	pH tested	Acceptable	Date	Calibration	Verified
Polymax T developer	10.6	7.8	6.6	Yes	4/27/2004	4.0	X
Kodak Indicator stop bath	2.5					10.0	X
Kodak HC 110 developer	9	5.8	6.48	Yes	4/27/2004	4.0	X
Kodak Indicator stop bath	2.5					10.0	X
Microdol - X	7.9	5.2				4.0	
Kodak Indicator stop bath	2.5					10.0	
Ilford p30 developer	9.6	6.0				4.0	
Kodak Indicator stop bath	2.5					10.0	

Report to Brazos River Authority

Acceptable Range: pH 5.5 to 9.5

Calibration of pH meter

4.0 buffer standard

10.0 buffer standard

Wastewater Analysis - Silver Concentration in B & W Photography Solutions

Chemical	Total Silver Concentration	GT Allowable Limit	RCRA Limit	Hazardous Waste
Darkroom Paper Processing				
Kodak Rapid Fixer Part A	73,000 ug/L = 73 mg/L	70 ug/L	5 mg/L	yes - both

Classroom Film Processing

Kodak Rapid fixer Part A	980,000 ug/L = 980 mg/L	70 ug/L	5 mg/L	yes - both
Orbit Bath Washing Agent	700 ug/L = 0.7 mg/L	70 ug/L	5 mg/L	yes - GT only

Universal Waste Program

- **Latex Paint:** Small quantities of water-based paints that are left over and “unwanted” (less than ¼ of a gal can) may be converted to a non-hazardous solid waste by adding a suitable filler material (vermiculite, cat litter) to completely solidify all paint. Once the contents are solid, remove paint lid from can and dispose of completely solid and dry paint waste in the dumpster.
 - **Larger quantities of latex paint (more than ¼ gal) should be collected/stored at Physical Plant. Physical Plant personnel will arrange for transport to a paint recycler: Williamson County – Hutto Recycle Center on FM1660. Phone # 512-846-2756. At this time, paint is accepted at no charge.**



- **Oil-Base Paint:** Oil-based paints that are unwanted must be collected and disposed of as **hazardous waste**. As soon as you designate your paint as ‘unwanted,’ it becomes a hazardous waste and should be transported to the UNIVERSAL WASTE STORAGE AREA at Physical Plant. Old dried up oil-based paint cans may be disposed of in the dumpster if cover is removed and paint is solidified.
 - **Oil-based paint should be transported to and stored at Physical Plant. Physical Plant personnel will arrange for transport to a paint recycler: Williamson County – Hutto Recycle Center on FM 1660. Phone # 512-846-2756. At this time, paint is accepted at no charge.**
- **Bulbs/Lamps/Thermostats/Switches - (mercury containing devices):** All fluorescent bulbs (including green tip), HID, mercury vapor, sodium, metal halide, arc, deuterium, germicidal, neon, UV, and thermostats, switches should be disposed of as **UNIVERSAL WASTE** and sent to a certified recycler. Label storage area and individual boxes of used bulbs as “Universal Waste.” Bulbs must be protected and kept closed (keep them in

original cardboard protected boxes) to avoid breakage and release of mercury. Records must be kept and forwarded to the Safety office for all lamp (mercury) recycling. Maximum storage accumulation limit is one year.

- **Bulbs should be collected at Physical Plant and transported to Williamson County – Hutto Recycling Center. At this time, bulbs are accepted at no charge.**



- **Batteries** – All rechargeable type batteries (lithium ion, nickel-metal hydride, etc.) must be collected as “Universal Waste - Used Batteries” and recycled. Store used rechargeable batteries in a labeled closed container until disposal. Tape over contact points with duct tape or masking tape to avoid short circuits and fire. Department representatives should transport to one of the local retail outlets that accept batteries for recycling (free small battery recycling boxes usually can be found at HomeDepot, BestBuy, McCoys Hardware in Georgetown). Maximum storage (accumulation) time is one year. If there are no outlets available that will accept used rechargeable batteries, you may bring these batteries to the Physical Plant hazardous waste central storage room. You will need to complete a waste disposal form.
 - Leaking batteries must be double bagged in a zip lock bag and labeled with our hazardous waste label. Please transport leaking batteries for proper disposal to the Physical Plant hazardous waste central storage area.



- **Auto Batteries (lead acid)** – Should be managed through an authorized recycling center such as Call2Recycle.org or preferably through a local auto parts or retail store that sells similar lead-acid batteries. *Texas law requires businesses that sell lead-acid batteries to accept your old battery when you purchase a new one. Ask your local auto parts store service shop or retailer where you purchased the battery if they will accept used batteries for recycling.* Store any used auto type battery in a labeled closed leak proof container until it is transported for recycling and label “Used Battery”. Please keep a written log of all recycling efforts and note date, quantity and recycler used. Tape over contacts to avoid short circuit. If possible, obtain a signature on your form from the recycler. Maximum storage accumulation time is one year.



- **Aerosol Cans** – EPA (RCRA) considers most aerosol can contents as hazardous waste (paints, solvents, glues). The propellants usually are propane, butane, and isobutene and are flammable. Texas Disposal Systems does not accept aerosol cans in their landfills due to pressurization issues.
 - **Aerosol cans should be emptied through normal use.**
 - **Collect all aerosol cans in a closed labeled container (Rubbermaid container) and transport/store at Physical Plant. Physical Plant will transport to Williamson County – Hutto Recycling Center for metal recycling.**



- **Certain Specialty Glues/Adhesive Cements/Caulking** - If product is still in a usable state the best method is to use it up. If this cannot be accomplished, store in labeled leak proof container for collection as **hazardous waste**. If product is dried out – dispose of in dumpster as normal trash.



Special Waste – Used Oil Management



- **Used Oil & Oil Filters** – As a used oil generator, you must ensure that used oil is properly managed by a recycling company. Used oil includes used engine oil, lubricating oil, gear oil, transmission fluid and hydraulic fluid.
- **Prohibited Uses of Used Oil.** It is illegal to dispose of used oil improperly as this can cause significant environmental damage.
 - Do not discharge or allow incidental discharge of used oil to sanitary or storm sewers, drainage ditches, septic tanks, or streams. This can be accomplished by storing in secure containers, regular inspections and clean-up and most importantly by utilizing secondary containment.
 - Do not dispose of used oil as a solid waste in campus dumpsters.
 - Do not mix used oil with other contaminants such as gasoline or solvents.
 - Do not use used oil for road oiling, dust control, weed control or for similar purposes.
- All used oil (filters) should be managed and recycled at an authorized oil recycler. Please keep a written log of all recycling efforts and note date, quantity and recycler used. If possible, obtain a signature on your form from the recycler.
- **Storage of Used Oil** - Used oil must be stored in tanks or containers that are in good condition and are less than a 55 gallon drum. If less than 55 gallon, the container will not be counted towards our campus-wide oil storage status. This means:
 - No severe rusting
 - No bulging or major dents
 - No visible leaks.
- Containers holding used oil must always be closed, except when removing or adding used oil. Many of the used oil regulations relate to good housekeeping practices. As a used oil generator, you must:
 - Label all storage containers or tanks with the words “**Used Oil**”
 - Store used oil container in sufficiently sized secondary containment
 - Store used oil in containers or tanks in good condition
 - Inspect used oil containers routinely

- Oil Spill/Leak: Be prepared with an oil spill kit nearby. If there is a leak of used oil: stop the leak, contain it, clean it up and properly manage the cleanup materials. Repair/replace the leaking container.
- **Vacuum Pump Oil** – Most vacuum pump or heating bath oil that you have no reason to believe is contaminated with chemicals/solvents, can be recycled as “Used Oil.” Label the container as “Used Pump Oil”. Used oil is stored and managed at Physical Plant. Transport used oil to Physical Plant. If you know or have good reason to believe that waste oil is contaminated (solvents, heavy metals, etc.) label and process it as **hazardous waste**, including the chemical names and approximate levels of all contaminants and store it in FJS Room 305.

Biological Waste

Regulated by state regulations (TCEQ). These wastes should be disposed of in permitted landfills.

Biohazardous Waste: All waste that contains infectious material or that can harbor microorganisms that may be harmful to humans, animals, plants or the environment is considered medical/special/regulated waste.

- Microbiological waste, which includes:
 - Discarded cultures and stocks of infectious agents and associated biologicals
 - Discarded cultures of specimens from medical, pathological, pharmaceutical, research, clinical, commercial, and industrial laboratories
 - Discarded live and attenuated vaccines, but excluding the empty containers thereof;
 - Discarded, used disposable culture dishes; and
 - Discarded, used disposable devices used to transfer, inoculate or mix cultures.
- Animal Waste, which includes:
 - Carcasses and body parts of animals, bedding of animals intentionally exposed to pathogens, and whole blood, serum, plasma, and/or blood components from animals
- Human Blood and Blood Products, which include:
 - Bulk blood, bulk human blood products, and bulk human body fluids (semen, vaginal secretions, any body fluid containing visible blood, saliva in dental settings, amniotic fluid, cerebrospinal fluid, peritoneal fluid, pleural fluid, and synovial fluid).
- Sharps Waste, which includes:
 - **Regardless of contamination:** hypodermic needles, hypodermic syringes with attached needles, scalpel blades, razor blades, disposable razors, and disposable scissors used in surgery or other medical procedures, and glass Pasteur pipettes

- **When Contaminated:** Glass pipettes, broken glassware, specimen tubes, blood culture bottles, and microscope slides

Contaminated is defined as the presence or the reasonably anticipated presence of blood, body fluids, or other infectious materials

Examples of Typical Laboratory Waste Stream

- Regulated/infectious (biohazardous) waste:
 - Microbiological waste
 - Animal waste sharps
 - Bulk and Human Blood and Blood Products
 - Sharps
- Normal (non-biohazardous) trash: (unless blood soaked/saturated or known to be infectious)
 - empty vaccine containers
 - paper towels
 - empty boxes or wrappers
 - gloves (vinyl or latex)
- Regulated Biological Waste Disposal
 - Biological waste products that cannot be rendered (by/after) autoclaving process or chemical treatment disposed of as regulated bio-hazardous waste.
 - Regulated biohazard waste must be sealed in a red biohazard bag and stored in a sealed red rigid biohazard waste disposal container (lined red bag).
 - All biohazard waste should be treated and disposed of promptly so not to create additional biohazards and odor related problems. Biohazard waste (regulated) should be stored under refrigeration and (sealed in a clear secondary zip lock bag) until a disposal pick-up is scheduled.
 - Sharps Containers from Health Services (medical waste – human BBP) must be disposed of as regulated medical waste. Our current vendor is Stericycle (847-943-6709), on-site pick-up service will be scheduled twice per year.



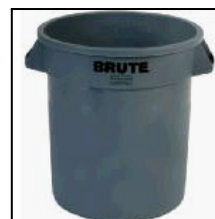
ous

labeled

- Sterilized or Treated Waste Disposal

- Sterilized Waste

1. Biohazard waste that has been autoclaved (sterilized or chemically treated) and therefore rendered “non-infectious” may be disposed of directly into a grey-labeled waste container and then transported and disposed of in the trash compactor at Physical Plant.
2. The waste container should be color coded (grey) and labeled as “Sterilized Waste – Dispose of in Trash Compactor”.
3. Apply autoclave indicator tape with lab # and date (across the biohazard symbol) for all sterilized biohazard waste and use a clear labeled biohazard bag. The color and labeling of a biohazard bag is used to differentiate between waste that is regulated (red) and waste that is non-regulated (clear).
4. Tapes give visible indication that material has been autoclaved or sterilized. White crepe tape shows "autoclaved" or "sterilized" after 15 min. exposure to 250°F in steam autoclave.



- Treated Waste

1. Chemical disinfection- 10% hypochlorite solution or EPA-approved chemical disinfectant or sterilizer used according to manufacturer's direction.

- Animal Carcass Disposal

- Flushed and very well drained carcasses with low formaldehyde content or low level research drug injections can be disposed of at Animal Services in Georgetown – carcasses should be bagged and sealed in Ziploc bags and stored in a freezer.
- The preferred disposal method is to bring “frozen specimens” to the collection dumpster.
- Contact Animal Services prior to delivering for disposal (930-3592).
- Carcasses or specimens that are not fixed can be disposed of at Georgetown Animal Services. Carosafe and Wardsafe holding solutions can be drain disposed in sanitary sewer with 5 minutes of flushing at a disposal rate of 2 gals per day per Brazos River Authority instructions.

- Quick Guide for Biohazardous Waste Disposal

Type of Waste	Container	Treatment Method	Disposal Method
Animal Carcasses	Ziploc bags (in freezer)	Wash off excess solutions	Dispose of at Georgetown Animal Shelter Dumpster
Bulk Blood and Blood Products			
Bulk Liquid	Labeled Red Biohazard Bag	N/A	Regulated biohazardous waste disposal in labeled red container
Semi-Solid (absorbed in granules)	Red Bag (no label)	N/A	Dispose of in trash compactor at Physical Plant
Microbiological Waste			
Solid	Clear labeled Biohazard Bag	Autoclave or chemical disinfect as appropriate (sterilized waste)	Place in gray container and dispose of in the trash compactor at Physical Plant
	Red labeled Biohazard Bag	If N/A	Regulated biohazardous waste disposal in labeled red container
Liquid	Heavy duty leak proof container labeled 'biohazard'	Autoclave or chemical disinfect as appropriate	Drain dispose if properly treated/sterilized
Sharps			
Contaminated	Labeled SHARPS container	N/A	Regulated biohazardous waste disposal in labeled red container – use a

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			pre-paid mail-in service. www.sharpsdisposal.com
Non-contaminated	Puncture resistant container labeled Non-Contaminated SHARPS	Encapsulated in a solid matrix [e.g. plaster of Paris]	Dispose of in dumpster

Hazardous Waste Self Audit

Instructions: Complete this self-audit on an annual basis (January) and forward completed audit to Safety and Risk Management Office. When answering an audit question it is an all or nothing response.

Department: _____ Lab #: _____ Instructor: _____

Y N Date: _____

- | | | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | 1. When you order, do you stock the maximum of 1 year supply of chemicals in an effort to meet the hazardous waste minimization policy? |
| <input type="checkbox"/> | <input type="checkbox"/> | 2. Are the labels on the hazardous waste containers correct and complete? |
| <input type="checkbox"/> | <input type="checkbox"/> | 3. Are labels applied to the waste container and completed with start date and chemical names added prior to the first "pour" into the container? |
| <input type="checkbox"/> | <input type="checkbox"/> | 4. Is the full chemical name(s) clearly legible to others (no abbreviations)? |
| <input type="checkbox"/> | <input type="checkbox"/> | 5. If the waste is a mixture, is the % for each component listed? |
| <input type="checkbox"/> | <input type="checkbox"/> | 6. Are waste containers kept tightly capped at all times so they do not pollute the air? |
| <input type="checkbox"/> | <input type="checkbox"/> | 7. Is the label and container in good clean legible condition? |
| <input type="checkbox"/> | <input type="checkbox"/> | 8. Is the hazardous waste accumulation area designated with a satellite storage sign? |
| <input type="checkbox"/> | <input type="checkbox"/> | 9. Do you store your hazardous waste containers inside the fume hood? |
| <input type="checkbox"/> | <input type="checkbox"/> | 10. Are your hazardous waste containers being stored in the cabinet under the fume hood? (This is the preferred location) |
| <input type="checkbox"/> | <input type="checkbox"/> | 11. Are your hazardous waste containers stored in appropriate secondary containers? |
| <input type="checkbox"/> | <input type="checkbox"/> | 12. When almost full, are the waste containers dated with the "end date" and safely transported in secondary containers to the central storage area Room 305? Reminder – do not wait until May/June to transfer waste to the central storage location if the container is near full prior to that. |
| <input type="checkbox"/> | <input type="checkbox"/> | 13. Is a waste disposal form completed by the generator when transferred to Room 305? |
| <input type="checkbox"/> | <input type="checkbox"/> | 14. Do you have a chemical spill clean-up kit readily available in your lab? |
| <input type="checkbox"/> | <input type="checkbox"/> | 15. Does your department inspect hazardous waste containers weekly as required by EPA to ensure above conditions have been met? |

Hazardous Waste Storage Areas

Central Storage Areas:

- **Fondren-Jones Science:** Chemical Storage Rm 305 and remediate if necessary.
- **Physical Plant:** Warehouse
- These areas should be assigned to specific individuals and inspected and logged weekly. Review containers for condition, tightly closed caps, leaks, spills, etc.

Satellite Accumulation Storage Areas:

- **Fondren-Jones Science:**
 - Teaching and Research Labs
- **Alma Thomas Fine Arts:**
 - Photography Lab – fixer - silver
 - Print Shop – paint, solvents solvent and paint stained rags, aerosols
 - Paint Studio – paints, solvents, aerosols
 - Theater Scene Shop – paints, solvents, aerosols
- **Physical Plant Warehouse:**
 - Paint Shop – paints, solvents, aerosols
 - Mechanical Repair Shop – oils, antifreeze, solvent from parts washers
 - Warehouse – Universal Wastes – bulbs, paints, aerosol cans

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Step 1: Is Your Material a Solid Waste?

The first step is to determine if the material in question is classified as a solid waste. If the material is NOT a solid waste, it cannot be a hazardous waste.

- The statutory definition of a solid waste is completely irrespective of the physical form of the waste. A "solid" waste can be just as easily liquid or gas. A material is considered a solid waste if it:
 - Is a solid, semi-solid, liquid, or contained gaseous material that is discarded or has served its intended purpose?
 - Is abandoned?
 - Is being recycled by being placed on the ground (and that is not the normal use), burned for energy recovery, reclaimed, or accumulated more than one year.
 - Is inherently waste-like (e.g., dioxin wastes)?
- If the material in question meets any of the provisions above, you may have a solid waste.
- If you answered NO to all of the above provisions, you do not have a solid waste. However, if you answered yes continue on to Step 2.

Step 2: Is Your Solid Waste Excluded from Hazardous Waste Regulations?

After you have determined that you have a solid waste on hand, the next step is to determine if that solid waste is excluded from RCRA regulation.

- EPA grants specific exclusions from some hazardous waste regulations if certain conditions are met. Some materials are excluded from the definition of solid waste, while some solid wastes are excluded from the definition of hazardous waste. Knowing these exclusions can be helpful in waste management programs.
- Some materials that are excluded from the definition of solid waste (and therefore are NOT hazardous) include:
 - Domestic sewage
 - Industrial wastewater discharges
 - Radioactive waste
 - Spent wood preserving solutions that are reclaimed and reused in the wood preserving process

- Processed scrap metal
- Irrigation return flow in situ mining waste
- Secondary materials that are reclaimed and returned to the original process, if the reclamation and return process is totally enclosed.
- These wastes are not hazardous because they are not considered solid waste.
- In addition, some recycled materials are not classified as solid waste. Materials are not solid wastes IF:
 - They are being used as substitutes for commercial products.
 - They are returned back to the original process without first being reclaimed or land disposed.
- This exemption is not valid if the materials are burned for energy recovery or used to make a product that will be applied to the land.
 - Samples collected for lab analysis are exempt from RCRA regulation until it is determined that they are to be disposed of.
 - Used oil that exhibits hazardous characteristics can be excluded if recycled. It is regulated under Standards for the Management of Used Oil ([40 CFR Part 279](#)).
 - [Universal wastes](#) (including batteries, pesticides, mercury-containing thermostats, switches, and thermometers, and electric lamps) may also qualify for reduced regulation.
 - The list above is NOT comprehensive. If your waste is not on the list above, it may still be excluded from RCRA regulation. See [40 CFR 261.4](#) for a complete list of those wastes exempt from hazardous waste regulation. Furthermore, if your waste **IS** listed above, that does not mean you are automatically exempt. Each exemption above is conditional and facility managers should review applicable sections of [40 CFR 261](#) and contact their State's hazardous waste program for clarification on exemptions.

If the solid is waste excluded from hazardous waste regulation, the waste is exempt (not regulated) under RCRA Subtitle C. However, if it is NOT excluded, continue to Step 3.

Step 3: Is Your Solid Waste Listed Waste?

Once you have determined that your solid waste is not excluded from RCRA requirements, the next step is to determine if the material is a "listed waste".

- EPA "lists" hazardous wastes that fall into four categories;
 - **F-listed wastes:** The F list includes wastes from common industrial processes. Because they are not specific to one type of industry, they are called wastes from non-specific sources. This list includes for example many types of spent (or used) solvents. See [40 CFR 261.31](#) to see if your waste is F-listed.

- **K-listed wastes:** The K list includes wastes from specific industrial processes, such as wood preservation, organic chemical production, and pesticide manufacturing. See [40 CFR 261.32](#) for the complete list of manufacturing process wastes to see if your facility might have a K-listed waste.
- **P- and U-listed wastes:** These two lists designate certain commercial chemical products as hazardous when disposed of unused. These unused chemicals may become wastes in a number of ways. Some can be spilled while in use while others can be intentionally discarded if out of specification. For a waste to qualify as a P- or U-listed waste, it must meet all three of the following criteria:
 1. The formulation must contain at least one chemical on the P or U list
 2. The chemical in the waste must be unused
 3. The chemical in the waste must be in the form of a CCP. (A CCP is a chemical that is of technical (commercial) grade, 100% pure, and the only active ingredient in the formulation.)
- There are hundreds of P- and U-listed wastes. Facility managers should look in 40 CFR 261.33 to see if chemicals present on-site are hazardous if disposed of unused. Please note that the chemicals with the "P" code are acutely hazardous. Generators with acutely hazardous waste are subject to different accumulation limits for those wastes.
- If the solid waste is listed it is regulated under RCRA Subtitle C. If it is NOT listed, continue to Step 4.

Step 4: Is Your Solid Waste a Characteristic Waste?

If your waste is not listed in [40 CFR Part 261](#), it may still be a hazardous waste. The next step is to see if your waste is a characteristic hazardous waste.

- Solid wastes that are not directly listed in [40 CFR Part 261](#) may still be hazardous. EPA uses a classification system based on the four properties of solid wastes. **If a material exhibits at least one of these characteristics, it is classified as a hazardous waste.** The four properties are:
 - **IGNITABILITY D001:** A substance is ignitable if it displays any of the following properties.
 1. A liquid with a flashpoint of less than 60° C (140° F);
 2. A non-liquid that is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture, or spontaneous chemical changes, and when ignited, burns so vigorously and persistently that it creates a hazard;
 3. An ignitable compressed gas;
 4. An oxidizer (such as a chlorate or peroxide).
 - 5. Details on the ignitability characteristic are included in [40 CFR 261.21](#)
- Exception – aqueous alcohol solutions containing < 24% alcohol by volume may be drain disposed if no other hazardous properties are present.

- **CORROSIVITY D002:** A substance is corrosive if it displays any of the following properties:
 1. An aqueous material with a pH less than or equal to 2 or greater than or equal to 12.5; **However**, in Georgetown we must follow the Brazos River Authority limits <6 pH or > 9 pH
 2. A liquid that corrodes steel at a rate of at least 0.25 inches per year at 55° C (130° F); A waste that is not aqueous and contains no liquid falls outside the definition of EPA corrosivity.
 3. Details on the corrosivity characteristic are included in [40 CFR 261.22](#).
- **REACTIVITY D003:** A substance is reactive if it displays any of the following properties.
 1. Normally unstable and readily undergoes violent change without detonating;
 2. Reacts violently with water;
 3. Forms potentially explosive mixtures with water;
 4. A cyanide or sulfide bearing waste which can generate fumes in a quantity sufficient to present a danger to human health.
 5. Capable of detonation
 6. A forbidden explosive, or a Class A or Class B explosive, as defined in Department of Transportation regulations in [49 CFR Part 173](#).
 7. Details on the reactivity characteristic are included in [40 CFR 261.23](#).
- **TOXICITY D004 – D043 see TCLP table**
 1. A substance is toxic if it exceeds the concentrations for contaminants listed in the "**Maximum Concentration of Contaminants for the Toxicity Characteristic**" table, presented in [40 CFR 261.24](#). A specific test, the **Toxicity Characteristic Leaching Procedure (TCLP)** must be conducted to determine if the waste is classified as toxic. Details on the toxicity characteristic are included in [40 CFR 261.24](#).
 2. EPA designates specific, standardized test methods that are to be used when determining the characteristics of a waste. These techniques are listed in the above
 3. If the solid waste is characterized as a hazardous waste, it is therefore regulated under RCRA Subtitle C. If it is NOT characterized as hazardous waste, continue to Step 5.

Step 5: Is Your Solid Waste Subject to the Mixture Rule?

Even though your solid waste is not a listed or characteristic waste, it could become a hazardous waste if mixed with materials classified as hazardous. The next step is to determine if your waste is a mixture of a solid waste and a hazardous waste.

1. The "**Mixture Rule**" states that mixtures of solid waste and listed hazardous waste must be regulated as hazardous waste. There are two ways to determine if a material is regulated under the mixture rule:
 1. If the material is a mixture of a solid waste and a hazardous waste, and the mixture exhibits one or more of the characteristics of hazardous waste.
 2. If the material is a mixture of a solid waste and a listed waste. The mixture rule is intended to discourage generators from mixing waste streams. More information can be reviewed at [40 CFR 261.3\(a\)\(iii\) and \(iv\)](#).
2. If the **solid waste was subject to the mixture rule it is therefore** regulated under RCRA Subtitle C. If it is not subject to the mixture rule, continue on to Step 6.

Step 6: Is Your Solid Waste Subject to the Derived-From Rule?

Your material is not a listed or characteristic waste, nor is it classified as hazardous due to the mixture rule, yet the material might still be a hazardous waste. Hazardous waste treatment, storage, and disposal processes often generate residues that may contain high concentrations of hazardous constituents. The derived-from rule governs the regulatory status of such waste residues.

- According to the Rule, any solid waste derived from the treatment, storage, or disposal of a hazardous waste is considered hazardous. "Derived from" wastes include sludges, spill residue, ash, emission control dust, and leachate. Some examples are drums that have been used for storage of a hazardous waste, or ash from the incineration of hazardous waste. This principle applies regardless of the actual risk to human or environmental health. More details about the "derived-from" rule and exemptions to the rule are included in [40 CFR Part 261.3 \(c\) and \(d\)](#).
- If the solid waste subject to the derived-from rule the waste is subject to the derived-from rule and is therefore regulated under RCRA Subtitle C. If it is not subject to the derived-from rule then the waste is not classified as hazardous under RCRA Subtitle C.

Disposal of Non-hazardous Laboratory Solid Chemicals as Trash

List #1: Non-Hazardous Chemicals

The following table, adapted from *Prudent Practices*, lists solid chemicals which are not considered hazardous by federal regulations and are therefore suitable for disposal with regular trash. Housekeepers, maintenance personnel, and trash collectors cannot readily distinguish between hazardous and non-hazardous chemical wastes. All non-hazardous (non-regulated) chemicals that are disposed of must be demarcated with an "X" and initials of the generator with the lab/room number provided.

Organic Chemicals

- | | | |
|---|--|---|
| <ul style="list-style-type: none">● Enzymes | <ul style="list-style-type: none">● Sugars and sugar alcohols● Starch | <ul style="list-style-type: none">● Naturally occurring amino acids and salts |
|---|--|---|

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- | | | |
|--|---|---|
| <ul style="list-style-type: none"> • Citric acid and its Na,K,Mg,Ca,NH₄ salts • Lactic acid and its Na,K,Mg,Ca,NH₄ salts | <p><i>Inorganic Chemicals</i></p> <ul style="list-style-type: none"> • Silica • Sulfates:
Na,K,Mg,Ca,Sr,NH₄ • Phosphates:
Na,K,Mg,Ca,Sr,NH₄ • Carbonates:
Na,K,Mg,Ca,Sr,NH₄ • Oxides:
B,Mg,Ca,Sr,Al,Si,Ti,Mn,Fe,Co,Cu • Chlorides:
Ca,Na,K,Mg,NH₄ • Borates:
Na,K,Mg,Ca | <p><i>Laboratory Materials Not Contaminated with Hazardous Chemicals</i></p> <ul style="list-style-type: none"> • Chromatographic adsorbent • Glassware • Filter papers • Filter aids • Rubber and plastic protective clothing/gloves |
|--|---|---|

Other examples of non-hazardous bio-chemicals include polysaccharides, nucleic acids and naturally occurring precursors, and dry biological media.

Drain Disposal/Solid Waste Disposal of Non-Hazardous Wastes List #2:

Non-hazardous Waste Chemicals A-Z

A list of non-regulated chemicals which can be disposed of by regular trash (solid waste only) or drain disposed in the sanitary sewer. All liquid waste must be drain disposed and flushed with a minimum of **5 minutes of tap water**. Solid waste must be cardboard boxed and labeled as “**Non-Regulated Waste**” with the lab number and generator initials placed on the box.

	Acid waste (aqueous), neutralized to a pH between 6 and 8 (does not contain As, Ba, Cd, Cr, Pb, Hg, Se, Ag, Mn, Ni, Cu, or Zn) Actin A-Adenosine, free base Adenosine 2' & 3'-monophosphate, disodium salt Adenosine 2' & 3'-monophosphate, free acid
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A	<p>Adenosine 2',3'-cyclic monophosphate, sodium salt Adenosine 3',5'-cyclic monophosphate, sodium salt Adenosine 3'-monophosphate, sodium salt Adenosine 5'-diphosphate, sodium salt Adenosine 5'-monophosphate Adenosine 5'-monophosphate, disodium salt Adenosine 5'-monophosphate, sodium salt Adonitol; Ribitol Agar; Bacto agar Agarose Alginic acid, sodium salt; Sodium alginate β-Alanine DL-Alanine L-Alanine Albumin, bovine Albumin, bovine, methylated Albumin, human</p> <p>Alcohols – maximum of 1 quart per day. Aqueous alcohol solutions containing < 24% alcohol by volume may be drain disposed if no other hazardous properties are present.</p> <p>Alcohol dehydrogenase Aldolase, type X DL-Aminobutyric acid; GABA 4-Amino-2-methyl-1-naphthol; Vitamin K5 Amylase α-Amylase, type II-A α-Amylase, type VI-B β-Amylase, sweet potato Amyloglucosidase Amylose Apyrase, grade VI D-Arabinose L(+) Arabinose</p>
B	<p>Baclofen Bacto peptone; Peptone Base waste (aqueous), neutralized to a pH between 6 and 8 (does not contain As, Ba, Cd, Cr, Pb, Hg, Se, Ag, Mn, Ni, Cu, or Zn) Bayberry wax Bentonite β-Glucuronidase, type VIII Betaine Bicuculline</p>

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	<p>Bile salts Biocytin Bromelain</p>
C	<p>Calcium citrate Calcium phosphate, monobasic Calcium sulfate (Drierite) Carbachol chloride Carbonic anhydrase Carboxymethyl cellulose Carboxypeptidase B, type I Carboxypeptidase Y Carminic acid Carrageenan, type II β-Carotene type IV; Carotene type III; Carotene, trans-β Carrageenan, type IV Casein Cellobiose, D(+) Cellulase type I, II, V, VI, and VII Cellulose Chalk; Protexulate; Calcium carbonate Chitin 2-Chloroadenosine (up to 15 mM) Chondroitin sulfate A, sodium salt CM Cellulose powder L-Citrulline Coccarboxylase Coenzyme A, sodium salt Collagen Collagenase α-Chymotrypsinogen A DL-Cystine Cytidine 2'&3'-monophosphate, free acid Cytidine 2'-monophosphate, sodium salt Cytidine 5'-triphosphate, sodium salt Cytosine</p>

D	<p>Dehydroisoandrosterone 3-sulfate, sodium salt dihydrate 2'-Deoxyadenosine 5'-triphosphate Deoxyepinephrine hydrochloride Deoxyribonucleic acid, type XV 2-Deoxy-D-ribose Deuterium oxide Dextran Dextrose</p>
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	2',4'-Dimethylacetophenone DNA Polymerase I
E	EDTA Egg albumin Elastase, type III Elastin-orcein Enolase D-Erythrose Ethanol – ethyl alcohol - no limit
F	Fibrin Fibrinogen, human type I Fibronectin Flavin adenine dinucleotide Folic acid Fomblin oil D-Fructose β -D(-)-Fructose D-Fructose-1,6-diphosphatase Fumaric acid, potassium salt Fumaric acid, sodium salt
G	Gelatin Glass beads α -Glucosidase, type I β -Glucosidase β -D(+)-Glucose L-Glucose Glucose 6-phosphate dehydrogenase Glucose-6-phosphate Glutamic acid D-Glutamic acid DL-Glutamic acid L-Glutamic acid DL-Glutamic acid, monohydrate L-Glutamine in saline Glycerin D-glycogen Guanosine 3',5'-cyclic monophosphate, sodium salt Guanosine 3'-monophosphate, sodium salt Guanosine 5'-monophosphate Guar gum Gum, karaya Gum, xanthan
	Heavy water (deuterium oxide) Hematin Hemin Hemoglobin

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H	Hexokinase Histone Hyaluronidase, type I-S Hydrocortisone Hydrocortisone acetate DL-Histidine DL-Homoserine Hydrogen peroxide (3% or below)
I	Immunoglobulins (IgA, IgM, IgG, IgD, IgE) Ilford ID 11 (working solution concentration) Ilford 2000 RT developer #741759 (working solution concentration) Ilford 2150 XL developer #741816 (working solution concentration) Insulin Invertase, grade V Iron filings DL-Isoleucine Isoproterenol up to 150 mM)
K	Kaolin Kodak developer D-11 (working solution concentration) Kodak developer D-19 (working solution concentration) Kodak developer D-76 (working solution concentration) Kodak dektol developer (working solution concentration) Kodak microdol X-developer (working solution concentration) Kodak Technidol developer (working solution concentration) Kodalith developer A:B = 1:1 (working solution concentration)
L	L-Lactic dehydrogenase, type XI L-Proline L-Serine L-Sorbose L-Threonine L-Valine D-Lactic dehydrogenase Lactoferrin β-Lactoglobulin alpha-Lactose Lectin Lectin from glycine max Lectin from triticum vulgaris peroxidase labeled DL-Leucine Locust bean gum (carob flour) Lysozyme, grade I (chicken egg)
	Magnesium hydroxide Magnesium sulfate D-(+)-Maltose, monohydrate

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M	<p>alpha-D(+)-Melibiose Methyl cellulose Methanol – methyl alcohol – max. 1 quart per day. Aqueous alcohol solutions containing < 24% alcohol by volume may be drain disposed if no other hazardous properties are present.</p> <p>Monoamine oxidase MXR RP-HC developer (working solution concentration) Myoglobin, human Myokinase</p>
N	<p>A-NADP, tetrasodium salt; A-Nicotinamide adenine dinucleotide phosphate NADP; Nicotinamide adenine dinucleotide phosphate B-Nicotinamide adenine dinucleotide agarose B-Nicotinamide adenine dinucleotide phosphate, tetrasodium salt B-Nicotinamide adenine dinucleotide, disodium salt B-Nicotinamide mononucleotide Naloxone Nerve growth factor Neuraminidase, type X and type VIII Nifedipine Nimodipine</p>
P	<p>p-Hydroxybenzoic acid propyl ester Pantothenic acid Pantothenic acid, hemicalcium salt; Calcium pantothenate; Vitamin B5, calcium salt DL-Pantothenic acid, hemicalcium salt Pectin Pectinase Penicillinase, type I Phentalamine (up to 1500 mM) Phenylephrine (up to 200 mM) Phosphatase alkaline, type VII-NT, bovine Phosphodiesterase Phosphodiesterase 3',5'-cyclic nucleotide Polymeric materials, epoxys, adhesives and glues (Hardened, reacted, dried or solidified) Polyethylene glycol Polyvinyl alcohol Potassium bitartrate; Potassium hydrogen tartarate; Cream of Tartar Potassium sulfate Potassium thiosulfate Proline DL-Proline Propylene glycol</p>

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	Prostaglandin F1A antiserum from rabbit Protease inhibitor from rabbit skeletal muscle Pyridoxal phosphate
R	Rennin Riboflavin D-Ribose 5-phosphate, disodium salt Ribonuclease A; Ribonuclease S; Ribonuclease T1 Rosin gum; Rosin wood
S	Saline solution (Less than 50% sodium chloride in water) Sarcosine DL-Serine Sodium ascorbate; Vitamin C, sodium Sodium chloride Sodium citrate Sodium phosphate Sodium sulfate D-Sorbitol Starch Streptokinase Strontium sulfate Succinamide Sucrose; table sugar
T	DL-Threonine Thyroglobulin, bovine Tragacanth gum Transferrin, human Triethylene glycol Triolein Tris buffer (up to 0.1 M) Tropomyosin Trypsin inhibitor
V	Valine D-Valine Vitamin K1; Phylloquinone; 2-methyl-3-phytyl-1,4-naphthoquinone
X	Xanthine oxidase Xylitol D-Xylose

EPA Waste Determination

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded as described in §261.2(a)(2)(i), when they are mixed with waste oil, used oil, or other material and applied to the land for dust suppression or road

treatment, when they are otherwise applied to the land in lieu of their original intended use or when they are contained in products that are applied to the land in lieu of their original intended use, or when, in lieu of their original intended use, they are produced for use as (or as a component of) a fuel, distributed for use as a fuel, or burned as a fuel.

- (a) Any commercial chemical product, or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section.
- (b) Any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph (e) or (f) of this section.
- (c) Any residue remaining in a container or in an inner liner removed from a container that has held any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraphs (e) or (f) of this section, unless the container is empty as defined in §261.7(b) of this chapter.
 - *Comment:* Unless the residue is being beneficially used or reused, or legitimately recycled or reclaimed; or being accumulated, stored, transported or treated prior to such use, re-use, recycling or reclamation, EPA considers the residue to be intended for discard, and thus, a hazardous waste. An example of a legitimate re-use of the residue would be where the residue remains in the container and the container is used to hold the same commercial chemical product or manufacturing chemical intermediate it previously held. An example of the discard of the residue would be where the drum is sent to a drum reconditioner who reconditions the drum but discards the residue.
- (d) Any residue or contaminated soil, water or other debris resulting from the cleanup of a spill into or on any land or water of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section, or any residue or contaminated soil, water or other debris resulting from the cleanup of a spill, into or on any land or water, of any off-specification chemical product and manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph (e) or (f) of this section.
 - *Comment:* The phrase “commercial chemical product or manufacturing chemical intermediate having the generic name listed in...” refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in paragraph (e) or (f). Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in paragraph (e) or (f), such waste will be listed in either §261.31 or §261.32 or will be identified as a hazardous waste by the characteristics set forth in subpart C of this part.

- (e) The commercial chemical products, manufacturing chemical 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.
- (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.
- ¹CAS Number given for parent compound only.

P-Listed Wastes: Alphabetical

These wastes and their corresponding EPA Hazardous Waste Numbers are listed in alphabetical order:

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 ₃ AsO ₄
P012	1327-53-3	Arsenic oxide As ₂ O ₃
P011	1303-28-2	Arsenic oxide As ₂ O ₅
P011	1303-28-2	Arsenic pentoxide
P012	1327-53-3	Arsenic trioxide
P038	692-42-2	Arsine, diethyl-
P036	696-28-6	Arsonous dichloride, phenyl-
P054	151-56-4	Aziridine
P067	75-55-8	Aziridine, 2-methyl-
P013	542-62-1	Barium cyanide

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P024	106-47-8	Benzenamine, 4-chloro-
P077	100-01-6	Benzenamine, 4-nitro-
P028	100-44-7	Benzene, (chloromethyl)-
P042	51-43-4	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-
P046	122-09-8	Benzeneethanamine, alpha,alpha-dimethyl-
P014	108-98-5	Benzenethiol
P127	1563-66-2	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate.
P188	57-64-7	Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo[2,3-b]indol-5-yl methylcarbamate ester (1:1).
P001	181-81-2	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.

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P023	107-20-0	Chloroacetaldehyde
P024	106-47-8	p-Chloroaniline
P026	5344-82-1	1-(o-Chlorophenyl)thiourea
P027	542-76-7	3-Chloropropionitrile
P029	544-92-3	Copper cyanide
P029	544-92-3	Copper cyanide Cu(CN)
P202	64-00-6	m-Cumenyl methylcarbamate.
P030		Cyanides (soluble cyanide salts), not otherwise specified
P031	460-19-5	Cyanogen
P033	506-77-4	Cyanogen chloride
P033	506-77-4	Cyanogen chloride (CN)Cl
P034	131-89-5	2-Cyclohexyl-4,6-dinitrophenol
P016	542-88-1	Dichloromethyl ether
P036	696-28-6	Dichlorophenylarsine
P037	60-57-1	Dieldrin
P038	692-42-2	Diethylarsine
P041	311-45-5	Diethyl-p-nitrophenyl phosphate
P040	297-97-2	O,O-Diethyl O-pyrazinyl phosphorothioate
P043	55-91-4	Diisopropylfluorophosphate (DFP)
P004	309-00-2	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a,-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)-
P060	465-73-6	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5beta,8beta,8abeta)-
P037	60-57-1	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta, 7aalpha)-
P051	172-20-8	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

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P046	122-09-8	alpha,alpha-Dimethylphenethylamine
P191	644-64-4	Dimetilan.
P047	1534-52-1	4,6-Dinitro-o-cresol, & salts
P048	51-28-5	2,4-Dinitrophenol
P020	88-85-7	Dinoseb
P085	152-16-9	Diphosphoramidate, octamethyl-
P111	107-49-3	Diphosphoric acid, tetraethyl ester
P039	298-04-4	Disulfoton
P049	541-53-7	Dithiobiuret
P185	26419-73-8	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-[(methylamino)- carbonyl]oxime.
P050	115-29-7	Endosulfan
P088	145-73-3	Endothall
P051	72-20-8	Endrin
P051	72-20-8	Endrin, & metabolites
P042	51-43-4	Epinephrine
P031	460-19-5	Ethanedinitrile
P194	23135-22-0	Ethanimidothioic acid, 2-(dimethylamino)-N-[[[(methylamino) carbonyl]oxy]-2-oxo-, methyl ester.
P066	16752-77-5	Ethanimidothioic acid, N-[[[(methylamino)carbonyl]oxy]-, methyl ester
P101	107-12-0	Ethyl cyanide
P054	151-56-4	Ethyleneimine
P097	52-85-7	Famphur
P056	7782-41-4	Fluorine
P057	640-19-7	Fluoroacetamide
P058	62-74-8	Fluoroacetic acid, sodium salt
P198	23422-53-9	Formetanate hydrochloride.
P197	17702-57-7	Formparanate.
P065	628-86-4	Fulminic acid, mercury(2+) salt (R,T)

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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
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

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P068	60-34-4	Methyl hydrazine
P064	624-83-9	Methyl isocyanate
P069	75-86-5	2-Methyl lactonitrile
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	154-11-5	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	Octamethylpyrophosphoramidate
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	1534-52-1	Phenol, 2-methyl-4,6-dinitro-, & salts
P020	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-

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P009	131-74-8	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P128	315-18-4	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester).
P199	2032-65-7	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate
P202	64-00-6	Phenol, 3-(1-methylethyl)-, methyl carbamate.
P201	2631-37-0	Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate.
P092	62-38-4	Phenylmercury acetate
P093	103-85-5	Phenylthiourea
P094	298-02-2	Phorate
P095	75-44-5	Phosgene
P096	7803-51-2	Phosphine
P041	311-45-5	Phosphoric acid, diethyl 4-nitrophenyl ester
P039	298-04-4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester
P094	298-02-2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester
P044	60-51-5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester
P043	55-91-4	Phosphorofluoridic acid, bis(1-methylethyl) ester
P089	56-38-2	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester
P040	297-97-2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P097	52-85-7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester
P071	298-00-0	Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl) ester
P204	57-47-6	Physostigmine.
P188	57-64-7	Physostigmine salicylate.
P110	78-00-2	Plumbane, tetraethyl-
P098	151-50-8	Potassium cyanide
P098	151-50-8	Potassium cyanide K(CN)
P099	506-61-6	Potassium silver cyanide
P201	2631-37-0	Promecarb

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P070	116-06-3	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime
P203	1646-88-4	Propanal, 2-methyl-2-(methyl-sulfonyl)-, O-[(methylamino)carbonyl] oxime.
P101	107-12-0	Propanenitrile
P027	542-76-7	Propanenitrile, 3-chloro-
P069	75-86-5	Propanenitrile, 2-hydroxy-2-methyl-
P081	55-63-0	1,2,3-Propanetriol, trinitrate (R)
P017	598-31-2	2-Propanone, 1-bromo-
P102	107-19-7	Propargyl alcohol
P003	107-02-8	2-Propenal
P005	107-18-6	2-Propen-1-ol
P067	75-55-8	1,2-Propylenimine
P102	107-19-7	2-Propyn-1-ol
P008	504-24-5	4-Pyridinamine
P075	154-11-5	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	157-24-9	Strychnidin-10-one, & salts
P018	357-57-3	Strychnidin-10-one, 2,3-dimethoxy-
P108	157-24-9	Strychnine, & salts
P115	7446-18-6	Sulfuric acid, dithallium(1+) salt
P109	3689-24-5	Tetraethyldithiopyrophosphate

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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)-
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	181-81-2	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)

P-Listed Wastes: Numerical

These wastes and their corresponding EPA Hazardous Waste Numbers are listed in P numerical order:

P001	'81-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%
P001	'81-81-2	Warfarin, & salts, when present at concentrations greater than 0.3%
P002	591-08-2	Acetamide, -(aminothioxomethyl)-
P002	591-08-2	1-Acetyl-2-thiourea
P003	107-02-8	Acrolein
P003	107-02-8	2-Propenal
P004	309-00-2	Aldrin
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)-
P005	107-18-6	Allyl alcohol
P005	107-18-6	2-Propen-1-ol
P006	20859-73-8	Aluminum phosphide (R,T)
P007	2763-96-4	5-(Aminomethyl)-3-isoxazolol
P007	2763-96-4	3(2H)-Isoxazolone, 5-(aminomethyl)-
P008	504-24-5	4-Aminopyridine
P008	504-24-5	4-Pyridinamine
P009	131-74-8	Ammonium picrate (R)
P009	131-74-8	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P010	7778-39-4	Arsenic acid H ₃ AsO ₄
P011	1303-28-2	Arsenic oxide As ₂ O ₅
P011	1303-28-2	Arsenic pentoxide
P012	1327-53-3	Arsenic oxide As ₂ O ₃
P012	1327-53-3	Arsenic trioxide

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P013	542-62-1	Barium cyanide
P014	108-98-5	Benzenethiol
P014	108-98-5	Thiophenol
P015	7440-41-7	Beryllium powder
P016	542-88-1	Dichloromethyl ether
P016	542-88-1	Methane, oxybis[chloro-
P017	598-31-2	Bromoacetone
P017	598-31-2	2-Propanone, 1-bromo-
P018	357-57-3	Brucine
P018	357-57-3	Strychnidin-10-one, 2,3-dimethoxy-
P020	88-85-7	Dinoseb
P020	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-
P021	592-01-8	Calcium cyanide
P021	592-01-8	Calcium cyanide $\text{Ca}(\text{CN})_2$
P022	75-15-0	Carbon disulfide
P023	107-20-0	Acetaldehyde, chloro-
P023	107-20-0	Chloroacetaldehyde
P024	106-47-8	Benzenamine, 4-chloro-
P024	106-47-8	p-Chloroaniline
P026	5344-82-1	1-(o-Chlorophenyl)thiourea
P026	5344-82-1	Thiourea, (2-chlorophenyl)-
P027	542-76-7	3-Chloropropionitrile
P027	542-76-7	Propanenitrile, 3-chloro-
P028	100-44-7	Benzene, (chloromethyl)-
P028	100-44-7	Benzyl chloride
P029	544-92-3	Copper cyanide
P029	544-92-3	Copper cyanide $\text{Cu}(\text{CN})$
P030		Cyanides (soluble cyanide salts), not otherwise specified
P031	460-19-5	Cyanogen
P031	460-19-5	Ethanedinitrile

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P033	506-77-4	Cyanogen chloride
P033	506-77-4	Cyanogen chloride (CN)Cl
P034	131-89-5	2-Cyclohexyl-4,6-dinitrophenol
P034	131-89-5	Phenol, 2-cyclohexyl-4,6-dinitro-
P036	696-28-6	Arsonous dichloride, phenyl-
P036	696-28-6	Dichlorophenylarsine
P037	60-57-1	Dieldrin
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)-
P038	692-42-2	Arsine, diethyl-
P038	692-42-2	Diethylarsine
P039	298-04-4	Disulfoton
P039	298-04-4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester
P040	297-97-2	O,O-Diethyl O-pyrazinyl phosphorothioate
P040	297-97-2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P041	311-45-5	Diethyl-p-nitrophenyl phosphate
P041	311-45-5	Phosphoric acid, diethyl 4-nitrophenyl ester
P042	51-43-4	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-
P042	51-43-4	Epinephrine
P043	55-91-4	Diisopropylfluorophosphate (DFP)
P043	55-91-4	Phosphorofluoridic acid, bis(1-methylethyl) ester
P044	60-51-5	Dimethoate
P044	60-51-5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methyl amino)-2-oxoethyl] ester
P045	39196-18-4	2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[(methylamino)carbonyl] oxime
P045	39196-18-4	Thiofanox
P046	122-09-8	Benzeneethanamine, alpha,alpha-dimethyl-
P046	122-09-8	alpha,alpha-Dimethylphenethylamine

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P047	¹ 534-52-1	4,6-Dinitro-o-cresol, & salts
P047	¹ 534-52-1	Phenol, 2-methyl-4,6-dinitro-, & salts
P048	51-28-5	2,4-Dinitrophenol
P048	51-28-5	Phenol, 2,4-dinitro-
P049	541-53-7	Dithiobiuret
P049	541-53-7	Thioimidodicarbonic diamide [(H ₂ N)C(S)] ₂ NH
P050	115-29-7	Endosulfan
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
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,2beta,3alpha,6alpha,6abeta,7beta, 7aalpha)-, & metabolites
P051	72-20-8	Endrin
P051	72-20-8	Endrin, & metabolites
P054	151-56-4	Aziridine
P054	151-56-4	Ethyleneimine
P056	7782-41-4	Fluorine
P057	640-19-7	Acetamide, 2-fluoro-
P057	640-19-7	Fluoroacetamide
P058	62-74-8	Acetic acid, fluoro-, sodium salt
P058	62-74-8	Fluoroacetic acid, sodium salt
P059	76-44-8	Heptachlor
P059	76-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-
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)-
P060	465-73-6	Isodrin
P062	757-58-4	Hexaethyl tetraphosphate
P062	757-58-4	Tetraphosphoric acid, hexaethyl ester
P063	74-90-8	Hydrocyanic acid

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P063	74-90-8	Hydrogen cyanide
P064	624-83-9	Methane, isocyanato-
P064	624-83-9	Methyl isocyanate
P065	628-86-4	Fulminic acid, mercury(2+) salt (R,T)
P065	628-86-4	Mercury fulminate (R,T)
P066	16752-77-5	Ethanimidothioic acid, N-[[[(methylamino)carbonyl]oxy]-, methyl ester
P066	16752-77-5	Methomyl
P067	75-55-8	Aziridine, 2-methyl-
P067	75-55-8	1,2-Propylenimine
P068	60-34-4	Hydrazine, methyl-
P068	60-34-4	Methyl hydrazine
P069	75-86-5	2-Methyllactonitrile
P069	75-86-5	Propanenitrile, 2-hydroxy-2-methyl-
P070	116-06-3	Aldicarb
P070	116-06-3	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime
P071	298-00-0	Methyl parathion
P071	298-00-0	Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl) ester
P072	86-88-4	alpha-Naphthylthiourea
P072	86-88-4	Thiourea, 1-naphthalenyl-
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
P075	¹ 54-11-5	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts
P076	10102-43-9	Nitric oxide
P076	10102-43-9	Nitrogen oxide NO
P077	100-01-6	Benzenamine, 4-nitro-

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P077	100-01-6	p-Nitroaniline
P078	10102-44-0	Nitrogen dioxide
P078	10102-44-0	Nitrogen oxide NO ₂
P081	55-63-0	Nitroglycerine (R)
P081	55-63-0	1,2,3-Propanetriol, trinitrate (R)
P082	62-75-9	Methanamine, -methyl-N-nitroso-
P082	62-75-9	N-Nitrosodimethylamine
P084	4549-40-0	N-Nitrosomethylvinylamine
P084	4549-40-0	Vinylamine, -methyl-N-nitroso-
P085	152-16-9	Diphosphoramidate, octamethyl-
P085	152-16-9	Octamethylpyrophosphoramidate
P087	20816-12-0	Osmium oxide OsO ₄ , (T-4)-
P087	20816-12-0	Osmium tetroxide
P088	145-73-3	Endothall
P088	145-73-3	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P089	56-38-2	Parathion
P089	56-38-2	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester
P092	62-38-4	Mercury, (acetato-O)phenyl-
P092	62-38-4	Phenylmercury acetate
P093	103-85-5	Phenylthiourea
P093	103-85-5	Thiourea, phenyl-
P094	298-02-2	Phorate
P094	298-02-2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester
P095	75-44-5	Carbonic dichloride
P095	75-44-5	Phosgene
P096	7803-51-2	Hydrogen phosphide
P096	7803-51-2	Phosphine
P097	52-85-7	Famphur

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P097	52-85-7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester
P098	151-50-8	Potassium cyanide
P098	151-50-8	Potassium cyanide K(CN)
P099	506-61-6	Argentate(1-), bis(cyano-C)-, potassium
P099	506-61-6	Potassium silver cyanide
P101	107-12-0	Ethyl cyanide
P101	107-12-0	Propanenitrile
P102	107-19-7	Propargyl alcohol
P102	107-19-7	2-Propyn-1-ol
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	¹ 157-24-9	Strychnidin-10-one, & salts
P108	¹ 157-24-9	Strychnine, & salts
P109	3689-24-5	Tetraethyldithiopyrophosphate
P109	3689-24-5	Thiodiphosphoric acid, tetraethyl ester
P110	78-00-2	Plumbane, tetraethyl-
P110	78-00-2	Tetraethyl lead
P111	107-49-3	Diphosphoric acid, tetraethyl ester
P111	107-49-3	Tetraethyl pyrophosphate
P112	509-14-8	Methane, tetranitro-(R)
P112	509-14-8	Tetranitromethane (R)
P113	1314-32-5	Thallic oxide
P113	1314-32-5	Thallium oxide Tl ₂ O ₃
P114	12039-52-0	Selenious acid, dithallium(1+) salt
P114	12039-52-0	Tetraethyldithiopyrophosphate

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P115	7446-18-6	Thiodiphosphoric acid, tetraethyl ester
P115	7446-18-6	Plumbane, tetraethyl-
P116	79-19-6	Tetraethyl lead
P116	79-19-6	Thiosemicarbazide
P118	75-70-7	Methanethiol, trichloro-
P118	75-70-7	Trichloromethanethiol
P119	7803-55-6	Ammonium vanadate
P119	7803-55-6	Vanadic acid, ammonium salt
P120	1314-62-1	Vanadium oxide V ₂ O ₅
P120	1314-62-1	Vanadium pentoxide
P121	557-21-1	Zinc cyanide
P121	557-21-1	Zinc cyanide Zn(CN) ₂
P122	1314-84-7	Zinc phosphide Zn ₃ P ₂ , when present at concentrations greater than 10% (R,T)
P123	8001-35-2	Toxaphene
P127	1563-66-2	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate.
P127	1563-66-2	Carbofuran
P128	315-8-4	Mexacarbate
P128	315-18-4	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester)
P185	26419-73-8	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-[(methylamino)-carbonyl]oxime.
P185	26419-73-8	Tirpate
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)
P188	57-64-7	Physostigmine salicylate
P189	55285-14-8	Carbamic acid, [(dibutylamino)-thio]methyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester
P189	55285-14-8	Carbosulfan
P190	1129-41-5	Carbamic acid, methyl-, 3-methylphenyl ester

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P190	1129-41-5	Metolcarb
P191	644-64-4	Carbamic acid, dimethyl-, 1-[(dimethyl-amino)carbonyl]-5-methyl-1H-pyrazol-3-yl ester
P191	644-64-4	Dimetilan
P192	119-38-0	Carbamic acid, dimethyl-, 3-methyl-1-(1-methylethyl)-1H-pyrazol-5-yl ester
P192	119-38-0	Isolan
P194	23135-22-0	Ethanimidthioic acid, 2-(dimethylamino)-N-[[[(methylamino) carbonyl]oxy]-2-oxo-, methyl ester
P194	23135-22-0	Oxamyl
P196	15339-36-3	Manganese, bis(dimethylcarbamodithioato-S,S')-,
P196	15339-36-3	Manganese dimethyldithiocarbamate
P197	17702-57-7	Formparanate
P197	17702-57-7	Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[[[(methylamino)carbonyl]oxy] phenyl]-
P198	23422-53-9	Formetanate hydrochloride
P198	23422-53-9	Methanimidamide, N,N-dimethyl-N'-[3-[[[(methylamino)-carbonyl]oxy]phenyl]- monohydrochloride
P199	2032-65-7	Methiocarb
P199	2032-65-7	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate
P201	2631-37-0	Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate
P201	2631-37-0	Promecarb
P202	64-00-6	m-Cumenyl methylcarbamate
P202	64-00-6	3-Isopropylphenyl N-methylcarbamate
P202	64-00-6	Phenol, 3-(1-methylethyl)-, methyl carbamate
P203	1646-88-4	Aldicarb sulfone
P203	1646-88-4	Propanal, 2-methyl-2-(methyl-sulfonyl)-, O-[(methylamino)carbonyl] oxime
P204	57-47-6	Physostigmine

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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)-
P205	137-30-4	Zinc, bis(dimethylcarbamodithioato-S,S')-,
P205	137-30-4	Ziram

U-Listed Wastes: Alphabetical

These wastes and their corresponding EPA Hazardous Waste Numbers are listed in alphabetical order:

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	194-75-7	Acetic acid, (2,4-dichlorophenoxy)-, salts & esters
U112	141-78-6	Acetic acid ethyl ester (I)
U144	301-04-2	Acetic acid, lead(2+) salt
U214	563-68-8	Acetic acid, thallium(1+) salt
see F027	93-76-5	Acetic acid, (2,4,5-trichlorophenoxy)-
U002	67-64-1	Acetone (I)
U003	75-05-8	Acetonitrile (I,T)
U004	98-86-2	Acetophenone
U005	53-96-3	2-Acetylaminofluorene
U006	75-36-5	Acetyl chloride (C,R,T)
U007	79-06-1	Acrylamide
U008	79-10-7	Acrylic acid (I)
U009	107-13-1	Acrylonitrile
U011	61-82-5	Amitrole
U012	62-53-3	Aniline (I,T)
U136	75-60-5	Arsinic acid, dimethyl-
U014	492-80-8	Auramine
U015	115-02-6	Azaserine

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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,8balph)]-]
U280	101-27-9	Barban.
U278	22781-23-3	Bendiocarb.
U364	22961-82-6	Bendiocarb phenol.
U271	17804-35-2	Benomyl.
U157	56-49-5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
U016	225-51-4	Benz[c]acridine
U017	98-87-3	Benzal chloride
U192	23950-58-5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-
U018	56-55-3	Benz[a]anthracene
U094	57-97-6	Benz[a]anthracene, 7,12-dimethyl-
U012	62-53-3	Benzenamine (I,T)
U014	492-80-8	Benzenamine, 4,4'-carbonimidoylbis[N,N-dimethyl-
U049	3165-93-3	Benzenamine, 4-chloro-2-methyl-, hydrochloride
U093	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-
U328	95-53-4	Benzenamine, 2-methyl-
U353	106-49-0	Benzenamine, 4-methyl-
U158	101-14-4	Benzenamine, 4,4'-methylenebis[2-chloro-
U222	636-21-5	Benzenamine, 2-methyl-, hydrochloride
U181	99-55-8	Benzenamine, 2-methyl-5-nitro-
U019	71-43-2	Benzene (I,T)

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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)
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-

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U055	98-82-8	Benzene, (1-methylethyl)- (I)
U169	98-95-3	Benzene, nitro-
U183	608-93-5	Benzene, pentachloro-
U185	82-68-8	Benzene, pentachloronitro-
U020	98-09-9	Benzenesulfonic acid chloride (C,R)
U020	98-09-9	Benzenesulfonyl chloride (C,R)
U207	95-94-3	Benzene, 1,2,4,5-tetrachloro-
U061	50-29-3	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro-
U247	72-43-5	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy-
U023	98-07-7	Benzene, (trichloromethyl)-
U234	99-35-4	Benzene, 1,3,5-trinitro-
U021	92-87-5	Benzidine
U202	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)

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U085	1464-53-5	2,2'-Bioxirane
U021	92-87-5	[1,1'-Biphenyl]-4,4'-diamine
U073	91-94-1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-
U091	119-90-4	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-
U095	119-93-7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-
U225	75-25-2	Bromoform
U030	101-55-3	4-Bromophenyl phenyl ether
U128	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U172	924-16-3	1-Butanamine, N-butyl-N-nitroso-
U031	71-36-3	1-Butanol (I)
U159	78-93-3	2-Butanone (I,T)
U160	1338-23-4	2-Butanone, peroxide (R,T)
U053	4170-30-3	2-Butenal
U074	764-41-0	2-Butene, 1,4-dichloro- (I,T)
U143	303-34-4	2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy- 2-(1-methoxyethyl)-3-methyl-1-oxobut oxy]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-benzimid azol-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

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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

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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 ₂ CrO 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

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U066	96-12-8	1,2-Dibromo-3-chloropropane
U069	84-74-2	Dibutyl phthalate
U070	95-50-1	o-Dichlorobenzene
U071	541-73-1	m-Dichlorobenzene
U072	106-46-7	p-Dichlorobenzene
U073	91-94-1	3,3'-Dichlorobenzidine
U074	764-41-0	1,4-Dichloro-2-butene (I,T)
U075	75-71-8	Dichlorodifluoromethane
U078	75-35-4	1,1-Dichloroethylene
U079	156-60-5	1,2-Dichloroethylene
U025	111-44-4	Dichloroethyl ether
U027	108-60-1	Dichloroisopropyl ether
U024	111-91-1	Dichloromethoxy ethane
U081	120-83-2	2,4-Dichlorophenol
U082	87-65-0	2,6-Dichlorophenol
U084	542-75-6	1,3-Dichloropropene
U085	1464-53-5	1,2:3,4-Diepoxybutane (I,T)
U108	123-91-1	1,4-Diethyleneoxide
U028	117-81-7	Diethylhexyl phthalate
U395	5952-26-1	Diethylene glycol, dicarbamate.
U086	1615-80-1	N,N'-Diethylhydrazine
U087	3288-58-2	O,O-Diethyl S-methyl dithiophosphate
U088	84-66-2	Diethyl phthalate
U089	56-53-1	Diethylstilbesterol
U090	94-58-6	Dihydrosafrole
U091	119-90-4	3,3'-Dimethoxybenzidine
U092	124-40-3	Dimethylamine (I)
U093	60-11-7	p-Dimethylaminoazobenzene
U094	57-97-6	7,12-Dimethylbenz[a]anthracene
U095	119-93-7	3,3'-Dimethylbenzidine

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U096	80-15-9	alpha,alpha-Dimethylbenzylhydroperoxide (R)
U097	79-44-7	Dimethylcarbamoyl chloride
U098	57-14-7	1,1-Dimethylhydrazine
U099	540-73-8	1,2-Dimethylhydrazine
U101	105-67-9	2,4-Dimethylphenol
U102	131-11-3	Dimethyl phthalate
U103	77-78-1	Dimethyl sulfate
U105	121-14-2	2,4-Dinitrotoluene
U106	606-20-2	2,6-Dinitrotoluene
U107	117-84-0	Di-n-octyl phthalate
U108	123-91-1	1,4-Dioxane
U109	122-66-7	1,2-Diphenylhydrazine
U110	142-84-7	Dipropylamine (I)
U111	621-64-7	Di-n-propylnitrosamine
U041	106-89-8	Epichlorohydrin
U001	75-07-0	Ethanal (I)
U404	121-44-8	Ethanamine, N,N-diethyl-
U174	55-18-5	Ethanamine, N-ethyl-N-nitroso-
U155	91-80-5	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-
U067	106-93-4	Ethane, 1,2-dibromo-
U076	75-34-3	Ethane, 1,1-dichloro-
U077	107-06-2	Ethane, 1,2-dichloro-
U131	67-72-1	Ethane, hexachloro-
U024	111-91-1	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-
U117	60-29-7	Ethane, 1,1'-oxybis-(I)
U025	111-44-4	Ethane, 1,1'-oxybis[2-chloro-
U184	76-01-7	Ethane, pentachloro-
U208	630-20-6	Ethane, 1,1,1,2-tetrachloro-

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U209	79-34-5	Ethane, 1,1,2,2-tetrachloro-
U218	62-55-5	Ethanethioamide
U226	71-55-6	Ethane, 1,1,1-trichloro-
U227	79-00-5	Ethane, 1,1,2-trichloro-
U410	59669-26-0	Ethanimidothioic acid, N,N'-[thiobis[(methylimino)carbonyloxy]]bis-, dimethyl ester
U394	30558-43-1	Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester.
U359	110-80-5	Ethanol, 2-ethoxy-
U173	1116-54-7	Ethanol, 2,2'-(nitrosoimino)bis-
U395	5952-26-1	Ethanol, 2,2'-oxybis-, dicarbamate.
U004	98-86-2	Ethanone, 1-phenyl-
U043	75-01-4	Ethene, chloro-
U042	110-75-8	Ethene, (2-chloroethoxy)-
U078	75-35-4	Ethene, 1,1-dichloro-
U079	156-60-5	Ethene, 1,2-dichloro-, (E)-
U210	127-18-4	Ethene, tetrachloro-
U228	79-01-6	Ethene, trichloro-
U112	141-78-6	Ethyl acetate (I)
U113	140-88-5	Ethyl acrylate (I)
U238	51-79-6	Ethyl carbamate (urethane)
U117	60-29-7	Ethyl ether (I)
U114	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

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U118	97-63-2	Ethyl methacrylate
U119	62-50-0	Ethyl methanesulfonate
U120	206-44-0	Fluoranthene
U122	50-00-0	Formaldehyde
U123	64-18-6	Formic acid (C,T)
U124	110-00-9	Furan (I)
U125	98-01-1	2-Furancarboxaldehyde (I)
U147	108-31-6	2,5-Furandione
U213	109-99-9	Furan, tetrahydro-(I)
U125	98-01-1	Furfural (I)
U124	110-00-9	Furfuran (I)
U206	18883-66-4	Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-, D-
U206	18883-66-4	D-Glucose, 2-deoxy-2-[[[(methylnitrosoamino)-carbonyl]amino]-
U126	765-34-4	Glycidylaldehyde
U163	70-25-7	Guanidine, N-methyl-N'-nitro-N-nitroso-
U127	118-74-1	Hexachlorobenzene
U128	87-68-3	Hexachlorobutadiene
U130	77-47-4	Hexachlorocyclopentadiene
U131	67-72-1	Hexachloroethane
U132	70-30-4	Hexachlorophene
U243	1888-71-7	Hexachloropropene
U133	302-01-2	Hydrazine (R,T)
U086	1615-80-1	Hydrazine, 1,2-diethyl-
U098	57-14-7	Hydrazine, 1,1-dimethyl-
U099	540-73-8	Hydrazine, 1,2-dimethyl-
U109	122-66-7	Hydrazine, 1,2-diphenyl-
U134	7664-39-3	Hydrofluoric acid (C,T)

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U134	7664-39-3	Hydrogen fluoride (C,T)
U135	7783-06-4	Hydrogen sulfide
U135	7783-06-4	Hydrogen sulfide H ₂ S
U096	80-15-9	Hydroperoxide, 1-methyl-1-phenylethyl- (R)
U116	96-45-7	2-Imidazolidinethione
U137	193-39-5	Indeno[1,2,3-cd]pyrene
U190	85-44-9	1,3-Isobenzofurandione
U140	78-83-1	Isobutyl alcohol (I,T)
U141	120-58-1	Isosafrole
U142	143-50-0	Kepone
U143	303-34-4	Lasiocarpine
U144	301-04-2	Lead acetate
U146	1335-32-6	Lead, bis(acetato-O)tetrahydroxytri-
U145	7446-27-7	Lead phosphate
U146	1335-32-6	Lead subacetate
U129	58-89-9	Lindane
U163	70-25-7	MNNG
U147	108-31-6	Maleic anhydride
U148	123-33-1	Maleic hydrazide
U149	109-77-3	Malononitrile
U150	148-82-3	Melphalan
U151	7439-97-6	Mercury
U152	126-98-7	Methacrylonitrile (I, T)
U092	124-40-3	Methanamine, N-methyl- (I)
U029	74-83-9	Methane, bromo-
U045	74-87-3	Methane, chloro- (I, T)
U046	107-30-2	Methane, chloromethoxy-
U068	74-95-3	Methane, dibromo-
U080	75-09-2	Methane, dichloro-
U075	75-71-8	Methane, dichlorodifluoro-

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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]pentale n-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctah ydro-
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)

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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

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U178	615-53-2	N-Nitroso-N-methylurethane
U179	100-75-4	N-Nitrosopiperidine
U180	930-55-2	N-Nitrosopyrrolidine
U181	99-55-8	5-Nitro-o-toluidine
U193	1120-71-4	1,2-Oxathiolane, 2,2-dioxide
U058	50-18-0	2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide
U115	75-21-8	Oxirane (I,T)
U126	765-34-4	Oxiranecarboxyaldehyde
U041	106-89-8	Oxirane, (chloromethyl)-
	U123-63-7	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-

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U132	70-30-4	Phenol, 2,2'-methylenebis[3,4,6-trichloro-
U411	114-26-1	Phenol, 2-(1-methylethoxy)-, methylcarbamate.
U170	100-02-7	Phenol, 4-nitro-
See F027	87-86-5	Phenol, pentachloro-
See F027	58-90-2	Phenol, 2,3,4,6-tetrachloro-
See F027	95-95-4	Phenol, 2,4,5-trichloro-
See F027	88-06-2	Phenol, 2,4,6-trichloro-
U150	148-82-3	L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-
U145	7446-27-7	Phosphoric acid, lead(2+) salt (2:3)
U087	3288-58-2	Phosphorodithioic acid, O,O-diethyl S-methyl ester
U189	1314-80-3	Phosphorus sulfide (R)
U190	85-44-9	Phthalic anhydride
U191	109-06-8	2-Picoline
U179	100-75-4	Piperidine, 1-nitroso-
U192	23950-58-5	Pronamide
U194	107-10-8	1-Propanamine (I,T)
U111	621-64-7	1-Propanamine, N-nitroso-N-propyl-
U110	142-84-7	1-Propanamine, N-propyl- (I)
U066	96-12-8	Propane, 1,2-dibromo-3-chloro-
U083	78-87-5	Propane, 1,2-dichloro-
U149	109-77-3	Propanedinitrile
U171	79-46-9	Propane, 2-nitro- (I,T)
U027	108-60-1	Propane, 2,2'-oxybis[2-chloro-
U193	1120-71-4	1,3-Propane sultone
See F027	93-72-1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-
U235	126-72-7	1-Propanol, 2,3-dibromo-, phosphate (3:1)

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U140	78-83-1	1-Propanol, 2-methyl- (I,T)
U002	67-64-1	2-Propanone (I)
U007	79-06-1	2-Propenamide
U084	542-75-6	1-Propene, 1,3-dichloro-
U243	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-
U009	107-13-1	2-Propenenitrile
U152	126-98-7	2-Propenenitrile, 2-methyl- (I,T)
U008	79-10-7	2-Propenoic acid (I)
U113	140-88-5	2-Propenoic acid, ethyl ester (I)
U118	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester
U162	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester (I,T)
U373	122-42-9	Propham.
U411	114-26-1	Propoxur.
U387	52888-80-9	Prosulfocarb.
U194	107-10-8	n-Propylamine (I,T)
U083	78-87-5	Propylene dichloride
U148	123-33-1	3,6-Pyridazinedione, 1,2-dihydro-
U196	110-86-1	Pyridine
U191	109-06-8	Pyridine, 2-methyl-
U237	66-75-1	2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-
U164	56-04-2	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
U180	930-55-2	Pyrrolidine, 1-nitroso-
U200	50-55-5	Reserpine
U201	108-46-3	Resorcinol
U202	181-07-2	Saccharin, & salts
U203	94-59-7	Safrole
U204	7783-00-8	Selenious acid
U204	7783-00-8	Selenium dioxide

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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)] $_2\text{S}_2$, tetramethyl-
U409	23564-05-8	Thiophanate-methyl.
U219	62-56-6	Thiourea
U244	137-26-8	Thiram
U220	108-88-3	Toluene

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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-trimethoxy benzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha,18beta,20alpha)-
U249	1314-84-7	Zinc phosphide Zn ₃ P ₂ , when present at concentrations of 10% or less

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U-Listed Wastes: Numerical

These wastes and their corresponding EPA Hazardous Waste Numbers are listed in numerical order:

U001	75-07-0	Acetaldehyde (I)
U001	75-07-0	Ethanal (I)
U002	67-64-1	Acetone (I)
U002	67-64-1	2-Propanone (I)
U003	75-05-8	Acetonitrile (I,T)
U004	98-86-2	Acetophenone
U004	98-86-2	Ethanone, 1-phenyl-
U005	53-96-3	Acetamide, -9H-fluoren-2-yl-
U005	53-96-3	2-Acetylaminofluorene
U006	75-36-5	Acetyl chloride (C,R,T)
U007	79-06-1	Acrylamide
U007	79-06-1	2-Propenamide
U008	79-10-7	Acrylic acid (I)
U008	79-10-7	2-Propenoic acid (I)
U009	107-13-1	Acrylonitrile
U009	107-13-1	2-Propenenitrile
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)]-
U010	50-07-7	Mitomycin C
U011	61-82-5	Amitrole
U011	61-82-5	1H-1,2,4-Triazol-3-amine
U012	62-53-3	Aniline (I,T)
U012	62-53-3	Benzenamine (I,T)
U014	492-80-8	Auramine
U014	492-80-8	Benzenamine, 4,4'-carbonimidoylbis[N,N-dimethyl-

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U015	115-02-6	Azaserine
U015	115-02-6	L-Serine, diazoacetate (ester)
U016	225-51-4	Benz[c]acridine
U017	98-87-3	Benzal chloride
U017	98-87-3	Benzene, (dichloromethyl)-
U018	56-55-3	Benz[a]anthracene
U019	71-43-2	Benzene (I,T)
U020	98-09-9	Benzenesulfonic acid chloride (C,R)
U020	98-09-9	Benzenesulfonyl chloride (C,R)
U021	92-87-5	Benzidine
U021	92-87-5	[1,1'-Biphenyl]-4,4'-diamine
U022	50-32-8	Benzo[a]pyrene
U023	98-07-7	Benzene, (trichloromethyl)-
U023	98-07-7	Benzotrichloride (C,R,T)
U024	111-91-1	Dichloromethoxy ethane
U024	111-91-1	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-
U025	111-44-4	Dichloroethyl ether
U025	111-44-4	Ethane, 1,1'-oxybis[2-chloro-
U026	494-03-1	Chlornaphazin
U026	494-03-1	Naphthalenamine, N,N'-bis(2-chloroethyl)-
U027	108-60-1	Dichloroisopropyl ether
U027	108-60-1	Propane, 2,2'-oxybis[2-chloro-
U028	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester
U028	117-81-7	Diethylhexyl phthalate
U029	74-83-9	Methane, bromo-
U029	74-83-9	Methyl bromide
U030	101-55-3	Benzene, 1-bromo-4-phenoxy-
U030	101-55-3	4-Bromophenyl phenyl ether
U031	71-36-3	1-Butanol (I)

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U031	71-36-3	n-Butyl alcohol (I)
U032	13765-19-0	Calcium chromate
U032	13765-19-0	Chromic acid H ₂ CrO ₄ , calcium salt
U033	353-50-4	Carbonic difluoride
U033	353-50-4	Carbon oxyfluoride (R,T)
U034	75-87-6	Acetaldehyde, trichloro-
U034	75-87-6	Chloral
U035	305-03-3	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-
U035	305-03-3	Chlorambucil
U036	57-74-9	Chlordane, alpha & gamma isomers
U036	57-74-9	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexa hydro-
U037	108-90-7	Benzene, chloro-
U037	108-90-7	Chlorobenzene
U038	510-15-6	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydro xy-, ethyl ester
U038	510-15-6	Chlorobenzilate
U039	59-50-7	p-Chloro-m-cresol
U039	59-50-7	Phenol, 4-chloro-3-methyl-
U041	106-89-8	Epichlorohydrin
U041	106-89-8	Oxirane, (chloromethyl)-
U042	110-75-8	2-Chloroethyl vinyl ether
U042	110-75-8	Ethene, (2-chloroethoxy)-
U043	75-01-4	Ethene, chloro-
U043	75-01-4	Vinyl chloride
U044	67-66-3	Chloroform
U044	67-66-3	Methane, trichloro-
U045	74-87-3	Methane, chloro- (I,T)
U045	74-87-3	Methyl chloride (I,T)

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U046	107-30-2	Chloromethyl methyl ether
U046	107-30-2	Methane, chloromethoxy-
U047	91-58-7	beta-Chloronaphthalene
U047	91-58-7	Naphthalene, 2-chloro-
U048	95-57-8	o-Chlorophenol
U048	95-57-8	Phenol, 2-chloro-
U049	3165-93-3	Benzenamine, 4-chloro-2-methyl-, hydrochloride
U049	3165-93-3	4-Chloro-o-toluidine, hydrochloride
U050	218-01-9	Chrysene
U051		Creosote
U052	1319-77-3	Cresol (Cresylic acid)
U052	1319-77-3	Phenol, methyl-
U053	4170-30-3	2-Butenal
U053	4170-30-3	Crotonaldehyde
U055	98-82-8	Benzene, (1-methylethyl)-(I)
U055	98-82-8	Cumene (I)
U056	110-82-7	Benzene, hexahydro-(I)
U056	110-82-7	Cyclohexane (I)
U057	108-94-1	Cyclohexanone (I)
U058	50-18-0	Cyclophosphamide
U058	50-18-0	2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide
U059	20830-81-3	Daunomycin
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)-
U060	72-54-8	Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro-
U060	72-54-8	DDD
U061	50-29-3	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro-

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U061	50-29-3	DDT
U062	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-di chloro-2-propenyl) ester
U062	2303-16-4	Diallate
U063	53-70-3	Dibenz[a,h]anthracene
U064	189-55-9	Benzo[rst]pentaphene
U064	189-55-9	Dibenzo[a,i]pyrene
U066	96-12-8	1,2-Dibromo-3-chloropropane
U066	96-12-8	Propane, 1,2-dibromo-3-chloro-
U067	106-93-4	Ethane, 1,2-dibromo-
U067	106-93-4	Ethylene dibromide
U068	74-95-3	Methane, dibromo-
U068	74-95-3	Methylene bromide
U069	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester
U069	84-74-2	Dibutyl phthalate
U070	95-50-1	Benzene, 1,2-dichloro-
U070	95-50-1	o-Dichlorobenzene
U071	541-73-1	Benzene, 1,3-dichloro-
U071	541-73-1	m-Dichlorobenzene
U072	106-46-7	Benzene, 1,4-dichloro-
U072	106-46-7	p-Dichlorobenzene
U073	91-94-1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-
U073	91-94-1	3,3'-Dichlorobenzidine
U074	764-41-0	2-Butene, 1,4-dichloro-(I,T)
U074	764-41-0	1,4-Dichloro-2-butene (I,T)
U075	75-71-8	Dichlorodifluoromethane
U075	75-71-8	Methane, dichlorodifluoro-
U076	75-34-3	Ethane, 1,1-dichloro-
U076	75-34-3	Ethylidene dichloride
U077	107-06-2	Ethane, 1,2-dichloro-
U077	107-06-2	Ethylene dichloride

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U078	75-35-4	1,1-Dichloroethylene
U078	75-35-4	Ethene, 1,1-dichloro-
U079	156-60-5	1,2-Dichloroethylene
U079	156-60-5	Ethene, 1,2-dichloro-, (E)-
U080	75-09-2	Methane, dichloro-
U080	75-09-2	Methylene chloride
U081	120-83-2	2,4-Dichlorophenol
U081	120-83-2	Phenol, 2,4-dichloro-
U082	87-65-0	2,6-Dichlorophenol
U082	87-65-0	Phenol, 2,6-dichloro-
U083	78-87-5	Propane, 1,2-dichloro-
U083	78-87-5	Propylene dichloride
U084	542-75-6	1,3-Dichloropropene
U084	542-75-6	1-Propene, 1,3-dichloro-
U085	1464-53-5	2,2'-Bioxirane
U085	1464-53-5	1,2:3,4-Diepoxybutane (I,T)
U086	1615-80-1	N,N'-Diethylhydrazine
U086	1615-80-1	Hydrazine, 1,2-diethyl-
U087	3288-58-2	O,O-Diethyl S-methyl dithiophosphate
U087	3288-58-2	Phosphorodithioic acid, O,O-diethyl S-methyl ester
U088	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester
U088	84-66-2	Diethyl phthalate
U089	56-53-1	Diethylstilbesterol
U089	56-53-1	Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-
U090	94-58-6	1,3-Benzodioxole, 5-propyl-
U090	94-58-6	Dihydrosafrole
U091	119-90-4	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-
U091	119-90-4	3,3'-Dimethoxybenzidine
U092	124-40-3	Dimethylamine (I)

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U092	124-40-3	Methanamine, -methyl-(I)
U093	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-
U093	60-11-7	p-Dimethylaminoazobenzene
U094	57-97-6	Benz[a]anthracene, 7,12-dimethyl-
U094	57-97-6	7,12-Dimethylbenz[a]anthracene
U095	119-93-7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-
U095	119-93-7	3,3'-Dimethylbenzidine
U096	80-15-9	alpha,alpha-Dimethylbenzylhydroperoxide (R)
U096	80-15-9	Hydroperoxide, 1-methyl-1-phenylethyl-(R)
U097	79-44-7	Carbamic chloride, dimethyl-
U097	79-44-7	Dimethylcarbamoyl chloride
U098	57-14-7	1,1-Dimethylhydrazine
U098	57-14-7	Hydrazine, 1,1-dimethyl-
U099	540-73-8	1,2-Dimethylhydrazine
U099	540-73-8	Hydrazine, 1,2-dimethyl-
U101	105-67-9	2,4-Dimethylphenol
U101	105-67-9	Phenol, 2,4-dimethyl-
U102	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester
U102	131-11-3	Dimethyl phthalate
U103	77-78-1	Dimethyl sulfate
U103	77-78-1	Sulfuric acid, dimethyl ester
U105	121-14-2	Benzene, 1-methyl-2,4-dinitro-
U105	121-14-2	2,4-Dinitrotoluene
U106	606-20-2	Benzene, 2-methyl-1,3-dinitro-
U106	606-20-2	2,6-Dinitrotoluene
U107	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester
U107	117-84-0	Di-n-octyl phthalate
U108	123-91-1	1,4-Diethyleneoxide
U108	123-91-1	1,4-Dioxane
U109	122-66-7	1,2-Diphenylhydrazine

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U109	122-66-7	Hydrazine, 1,2-diphenyl-
U110	142-84-7	Dipropylamine (I)
U110	142-84-7	1-Propanamine, N-propyl-(I)
U111	621-64-7	Di-n-propylnitrosamine
U111	621-64-7	1-Propanamine, N-nitroso-N-propyl-
U112	141-78-6	Acetic acid ethyl ester (I)
U112	141-78-6	Ethyl acetate (I)
U113	140-88-5	Ethyl acrylate (I)
U113	140-88-5	2-Propenoic acid, ethyl ester (I)
U114	¹ 111-54-6	Carbamodithioic acid, 1,2-ethanediybis-, salts & esters
U114	¹ 111-54-6	Ethylenebisdithiocarbamic acid, salts & esters
U115	75-21-8	Ethylene oxide (I,T)
U115	75-21-8	Oxirane (I,T)
U116	96-45-7	Ethylenethiourea
U116	96-45-7	2-Imidazolidinethione
U117	60-29-7	Ethane, 1,1'-oxybis-(I)
U117	60-29-7	Ethyl ether (I)
U118	97-63-2	Ethyl methacrylate
U118	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester
U119	62-50-0	Ethyl methanesulfonate
U119	62-50-0	Methanesulfonic acid, ethyl ester
U120	206-44-0	Fluoranthene
U121	75-69-4	Methane, trichlorofluoro-
U121	75-69-4	Trichloromonofluoromethane
U122	50-00-0	Formaldehyde
U123	64-18-6	Formic acid (C,T)
U124	110-00-9	Furan (I)
U124	110-00-9	Furfuran (I)
U125	98-01-1	2-Furancarboxaldehyde (I)

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U125	98-01-1	Furfural (I)
U126	765-34-4	Glycidylaldehyde
U126	765-34-4	Oxiranecarboxyaldehyde
U127	118-74-1	Benzene, hexachloro-
U127	118-74-1	Hexachlorobenzene
U128	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U128	87-68-3	Hexachlorobutadiene
U129	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)-
U129	58-89-9	Lindane
U130	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
U130	77-47-4	Hexachlorocyclopentadiene
U131	67-72-1	Ethane, hexachloro-
U131	67-72-1	Hexachloroethane
U132	70-30-4	Hexachlorophene
U132	70-30-4	Phenol, 2,2'-methylenebis[3,4,6-trichloro-
U133	302-01-2	Hydrazine (R,T)
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 ₂ S
U136	75-60-5	Arsinic acid, dimethyl-
U136	75-60-5	Cacodylic acid
U137	193-39-5	Indeno[1,2,3-cd]pyrene
U138	74-88-4	Methane, iodo-
U138	74-88-4	Methyl iodide
U140	78-83-1	Isobutyl alcohol (I,T)
U140	78-83-1	1-Propanol, 2-methyl- (I,T)
U141	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-
U141	120-58-1	Isosafrole
U142	143-50-0	Kepone

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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-
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]]-
U143	303-34-4	Lasiocarpine
U144	301-04-2	Acetic acid, lead(2+) salt
U144	301-04-2	Lead acetate
U145	7446-27-7	Lead phosphate
U145	7446-27-7	Phosphoric acid, lead(2+) salt (2:3)
U146	1335-32-6	Lead, bis(acetato-O)tetrahydroxytri-
U146	1335-32-6	Lead subacetate
U147	108-31-6	2,5-Furandione
U147	108-31-6	Maleic anhydride
U148	123-33-1	Maleic hydrazide
U148	123-33-1	3,6-Pyridazinedione, 1,2-dihydro-
U149	109-77-3	Malononitrile
U149	109-77-3	Propanedinitrile
U150	148-82-3	Melphalan
U150	148-82-3	L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-
U151	7439-97-6	Mercury
U152	126-98-7	Methacrylonitrile (I,T)
U152	126-98-7	2-Propenenitrile, 2-methyl- (I,T)
U153	74-93-1	Methanethiol (I,T)
U153	74-93-1	Thiomethanol (I,T)
U154	67-56-1	Methanol (I)
U154	67-56-1	Methyl alcohol (I)
U155	91-80-5	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-

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U155	91-80-5	Methapyrilene
U156	79-22-1	Carbonochloridic acid, methyl ester (I,T)
U156	79-22-1	Methyl chlorocarbonate (I,T)
U157	56-49-5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
U157	56-49-5	3-Methylcholanthrene
U158	101-14-4	Benzenamine, 4,4'-methylenebis[2-chloro-
U158	101-14-4	4,4'-Methylenebis(2-chloroaniline)
U159	78-93-3	2-Butanone (I,T)
U159	78-93-3	Methyl ethyl ketone (MEK) (I,T)
U160	1338-23-4	2-Butanone, peroxide (R,T)
U160	1338-23-4	Methyl ethyl ketone peroxide (R,T)
U161	108-10-1	Methyl isobutyl ketone (I)
U161	108-10-1	4-Methyl-2-pentanone (I)
U161	108-10-1	Pentanol, 4-methyl-
U162	80-62-6	Methyl methacrylate (I,T)
U162	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester (I,T)
U163	70-25-7	Guanidine, -methyl-N'-nitro-N-nitroso-
U163	70-25-7	MNNG
U164	56-04-2	Methylthiouracil
U164	56-04-2	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
U165	91-20-3	Naphthalene
U166	130-15-4	1,4-Naphthalenedione
U166	130-15-4	1,4-Naphthoquinone
U167	134-32-7	1-Naphthalenamine
U167	134-32-7	alpha-Naphthylamine
U168	91-59-8	2-Naphthalenamine
U168	91-59-8	beta-Naphthylamine
U169	98-95-3	Benzene, nitro-
U169	98-95-3	Nitrobenzene (I,T)

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U170	100-02-7	p-Nitrophenol
U170	100-02-7	Phenol, 4-nitro-
U171	79-46-9	2-Nitropropane (I,T)
U171	79-46-9	Propane, 2-nitro- (I,T)
U172	924-16-3	1-Butanamine, N-butyl-N-nitroso-
U172	924-16-3	N-Nitrosodi-n-butylamine
U173	1116-54-7	Ethanol, 2,2'-(nitrosoimino)bis-
U173	1116-54-7	N-Nitrosodiethanolamine
U174	55-18-5	Ethanamine, -ethyl-N-nitroso-
U174	55-18-5	N-Nitrosodiethylamine
U176	759-73-9	N-Nitroso-N-ethylurea
U176	759-73-9	Urea, N-ethyl-N-nitroso-
U177	684-93-5	N-Nitroso-N-methylurea
U177	684-93-5	Urea, N-methyl-N-nitroso-
U178	615-53-2	Carbamic acid, methylnitroso-, ethyl ester
U178	615-53-2	N-Nitroso-N-methylurethane
U179	100-75-4	N-Nitrosopiperidine
U179	100-75-4	Piperidine, 1-nitroso-
U180	930-55-2	N-Nitrosopyrrolidine
U180	930-55-2	Pyrrolidine, 1-nitroso-
U181	99-55-8	Benzenamine, 2-methyl-5-nitro-
U181	99-55-8	5-Nitro-o-toluidine
U182	123-63-7	1,3,5-Trioxane, 2,4,6-trimethyl-
U182	123-63-7	Paraldehyde
U183	608-93-5	Benzene, pentachloro-
U183	608-93-5	Pentachlorobenzene
U184	76-01-7	Ethane, pentachloro-
U184	76-01-7	Pentachloroethane
U185	82-68-8	Benzene, pentachloronitro-
U185	82-68-8	Pentachloronitrobenzene (PCNB)
U186	504-60-9	1-Methylbutadiene (I)

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U186	504-60-9	1,3-Pentadiene (I)
U187	62-44-2	Acetamide, -(4-ethoxyphenyl)-
U187	62-44-2	Phenacetin
U188	108-95-2	Phenol
U189	1314-80-3	Phosphorus sulfide (R)
U189	1314-80-3	Sulfur phosphide (R)
U190	85-44-9	1,3-Isobenzofurandione
U190	85-44-9	Phthalic anhydride
U191	109-06-8	2-Picoline
U191	109-06-8	Pyridine, 2-methyl-
U192	23950-58-5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-
U192	23950-58-5	Pronamide
U193	1120-71-4	1,2-Oxathiolane, 2,2-dioxide
U193	1120-71-4	1,3-Propane sultone
U194	107-10-8	1-Propanamine (I,T)
U194	107-10-8	n-Propylamine (I,T)
U196	110-86-1	Pyridine
U197	106-51-4	p-Benzoquinone
U197	106-51-4	2,5-Cyclohexadiene-1,4-dione
U200	50-55-5	Reserpine
U200	50-55-5	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenz oyl)oxy]-, methyl ester,(3beta,16beta,17alpha,18beta,20alpha)-
U201	108-46-3	1,3-Benzenediol
U201	108-46-3	Resorcinol
U202	181-07-2	1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts
U202	181-07-2	Saccharin, & salts
U203	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-
U203	94-59-7	Safrole

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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)
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]-
U206	18883-66-4	Streptozotocin
U207	95-94-3	Benzene, 1,2,4,5-tetrachloro-
U207	95-94-3	1,2,4,5-Tetrachlorobenzene
U208	630-20-6	Ethane, 1,1,1,2-tetrachloro-
U208	630-20-6	1,1,1,2-Tetrachloroethane
U209	79-34-5	Ethane, 1,1,2,2-tetrachloro-
U209	79-34-5	1,1,2,2-Tetrachloroethane
U210	127-18-4	Ethene, tetrachloro-
U210	127-18-4	Tetrachloroethylene
U211	56-23-5	Carbon tetrachloride
U211	56-23-5	Methane, tetrachloro-
U213	109-99-9	Furan, tetrahydro-(I)
U213	109-99-9	Tetrahydrofuran (I)
U214	563-68-8	Acetic acid, thallium(1+) salt
U214	563-68-8	Thallium(I) acetate
U215	6533-73-9	Carbonic acid, dithallium(1+) salt
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	Nitric acid, thallium(1+) salt
U217	10102-45-1	Thallium(I) nitrate
U218	62-55-5	Ethanethioamide
U218	62-55-5	Thioacetamide

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U219	62-56-6	Thiourea
U220	108-88-3	Benzene, methyl-
U220	108-88-3	Toluene
U221	25376-45-8	Benzenediamine, ar-methyl-
U221	25376-45-8	Toluenediamine
U222	636-21-5	Benzenamine, 2-methyl-, hydrochloride
U222	636-21-5	o-Toluidine hydrochloride
U223	26471-62-5	Benzene, 1,3-diisocyanatomethyl- (R,T)
U223	26471-62-5	Toluene diisocyanate (R,T)
U225	75-25-2	Bromoform
U225	75-25-2	Methane, tribromo-
U226	71-55-6	Ethane, 1,1,1-trichloro-
U226	71-55-6	Methyl chloroform
U226	71-55-6	1,1,1-Trichloroethane
U227	79-00-5	Ethane, 1,1,2-trichloro-
U227	79-00-5	1,1,2-Trichloroethane
U228	79-01-6	Ethene, trichloro-
U228	79-01-6	Trichloroethylene
U234	99-35-4	Benzene, 1,3,5-trinitro-
U234	99-35-4	1,3,5-Trinitrobenzene (R,T)
U235	126-72-7	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U235	126-72-7	Tris(2,3-dibromopropyl) phosphate
U236	72-57-1	2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)b is(azo)bis[5-amino-4-hydroxy]-, tetrasodium salt
U236	72-57-1	Trypan blue
U237	66-75-1	2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-
U237	66-75-1	Uracil mustard
U238	51-79-6	Carbamic acid, ethyl ester
U238	51-79-6	Ethyl carbamate (urethane)

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U239	1330-20-7	Benzene, dimethyl- (I,T)
U239	1330-20-7	Xylene (I)
U240	¹ 94-75-7	Acetic acid, (2,4-dichlorophenoxy)-, salts & esters
U240	¹ 94-75-7	2,4-D, salts & esters
U243	1888-71-7	Hexachloropropene
U243	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-
U244	137-26-8	Thioperoxydicarbonic diamide [(H ₂ N)C(S)] ₂ S ₂ , tetramethyl-
U244	137-26-8	Thiram
U246	506-68-3	Cyanogen bromide (CN)Br
U247	72-43-5	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy-
U247	72-43-5	Methoxychlor
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
U248	¹ 81-81-2	Warfarin, & salts, when present at concentrations of 0.3% or less
U249	1314-84-7	Zinc phosphide Zn ₃ P ₂ , when present at concentrations of 10% or less
U271	17804-35-2	Benomyl
U271	17804-35-2	Carbamic acid, [1-[(butylamino)carbonyl]-1H-benzimidazol-2-yl]-, methyl ester
U278	22781-23-3	Bendiocarb
U278	22781-23-3	1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate
U279	63-25-2	Carbaryl
U279	63-25-2	1-Naphthalenol, methylcarbamate
U280	101-27-9	Barban
U280	101-27-9	Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butynyl ester

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U328	95-53-4	Benzenamine, 2-methyl-
U328	95-53-4	o-Toluidine
U353	106-49-0	Benzenamine, 4-methyl-
U353	106-49-0	p-Toluidine
U359	110-80-5	Ethanol, 2-ethoxy-
U359	110-80-5	Ethylene glycol monoethyl ether
U364	22961-82-6	Bendiocarb phenol
U364	22961-82-6	1,3-Benzodioxol-4-ol, 2,2-dimethyl-,
U367	1563-38-8	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-
U367	1563-38-8	Carbofuran phenol
U372	10605-21-7	Carbamic acid, 1H-benzimidazol-2-yl, methyl ester
U372	10605-21-7	Carbendazim
U373	122-42-9	Carbamic acid, phenyl-, 1-methylethyl ester
U373	122-42-9	Propham
U387	52888-80-9	Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester
U387	52888-80-9	Prosulfocarb
U389	2303-17-5	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester
U389	2303-17-5	Triallate
U394	30558-43-1	A2213
U394	30558-43-1	Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester
U395	5952-26-1	Diethylene glycol, dicarbamate
U395	5952-26-1	Ethanol, 2,2'-oxybis-, dicarbamate
U404	121-44-8	Ethanamine, N,N-diethyl-
U404	121-44-8	Triethylamine
U409	23564-05-8	Carbamic acid, [1,2-phenylenebis (iminocarbonothioyl)]bis-, dimethyl ester
U409	23564-05-8	Thiophanate-methyl

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U410	59669-26-0	Ethanimidothioic acid, N,N'-[thiobis[(methylimino)carbonyloxy]]bi s-, dimethyl ester
U410	59669-26-0	Thiodicarb
U411	114-26-1	Phenol, 2-(1-methylethoxy)-, methylcarbamate
U411	114-26-1	Propoxur
See F027	93-76-5	Acetic acid, (2,4,5-trichlorophenoxy)-
See F027	87-86-5	Pentachlorophenol
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-
See F027	93-72-1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-
See F027	93-72-1	Silvex (2,4,5-TP)
See F027	93-76-5	2,4,5-T
See F027	58-90-2	2,3,4,6-Tetrachlorophenol
See F027	95-95-4	2,4,5-Trichlorophenol
See F027	88-06-2	2,4,6-Trichlorophenol

¹CAS Number given for parent compound only.

[45 FR 78529, 78541, Nov. 25, 1980]

Editorial Note: For Federal Register citations affecting §261.33, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and on GPO Access.

§ 261.35 Deletion of certain hazardous waste codes following equipment cleaning and replacement.

F LIST: Non-specific source wastes (spent solvents)

Subpart D—Lists of Hazardous Wastes

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

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F005	The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures	(I,T)
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum	(T)
F007	Spent cyanide plating bath solutions from electroplating operations	(R, T)
F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process	(R, T)
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process	(R, T)
F010	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process	(R, T)
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations	(R, T)
F012	Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process	(T)
F019	Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process. 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-	(H)

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	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.)	
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 synthesized from prepurified 2,4,5-trichlorophenol as the sole component.)	(H)

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F028	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027	(T)
F032	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with §261.35 of this chapter or potentially cross-contaminated wastes that are otherwise currently regulated as hazardous wastes (i.e., F034 or F035), and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol	(T)
F034	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol	(T)
F035	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol	(T)
F037	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. 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)

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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)

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

- (b) Listing Specific Definitions: (1) For the purposes of the F037 and F038 listings, oil/water/solids is defined as oil and/or water and/or solids.(2) (i) For the purposes of the F037 and F038 listings, aggressive biological treatment units are defined as units which employ one of the following four treatment methods: activated sludge; trickling filter; rotating biological contactor for the continuous accelerated biological oxidation of wastewaters; or high-rate aeration. High-rate aeration is a system of surface impoundments or tanks, in which intense mechanical aeration is used to completely mix the wastes, enhance biological activity, and (A) the units employ a minimum of 6 hp per million gallons of treatment volume; and either (B) the hydraulic retention time of the unit is no longer than 5 days; or (C) the hydraulic retention time is no longer than 30 days and the unit does not generate a sludge that is a hazardous waste by the Toxicity Characteristic.
 - (ii) Generators and treatment, storage and disposal facilities have the burden of proving that their sludges are exempt from listing as F037 and F038 wastes under this definition. Generators and treatment, storage and disposal facilities must maintain, in their operating or other onsite records, documents and data sufficient to prove that: (A) the unit is an aggressive biological treatment unit as defined in this subsection; and (B) the sludges sought to be exempted from the definitions of F037 and/or F038 were actually generated in the aggressive biological treatment unit.
- (3) (i) For the purposes of the F037 listing, sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement.

- (ii) For the purposes of the F038 listing, (A) sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement and (B) floats are considered to be generated at the moment they are formed in the top of the unit.
- (4) For the purposes of the F019 listing, the following apply to wastewater treatment sludges from the manufacturing of motor vehicles using a zinc phosphating process.
 - (i) Motor vehicle manufacturing is defined to include the manufacture of automobiles and light trucks/utility vehicles (including light duty vans, pick-up trucks, minivans, and sport utility vehicles). Facilities must be engaged in manufacturing complete vehicles (body and chassis or unibody) or chassis only.
 - (ii) Generators must maintain in their on-site records documentation and information sufficient to prove that the wastewater treatment sludges to be exempted from the F019 listing meet the conditions of the listing. These records must include: the volume of waste generated and disposed of off site; documentation showing when the waste volumes were generated and sent off site; the name and address of the receiving facility; and documentation confirming receipt of the waste by the receiving facility. Generators must maintain these documents on site for no less than three years. The retention period for the documentation is automatically extended during the course of any enforcement action or as requested by the Regional Administrator or the state regulatory authority.

[46 FR 4617, Jan. 16, 1981]

Editorial Note: For Federal Register citations affecting §261.31, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and on GPO Access.

Toxicity - TCLP

A substance is toxic if it exceeds the concentrations of the contaminants listed in Table 1 and must be handled as a hazardous waste.

- (a) A solid waste (except manufactured gas plant waste) exhibits the characteristic of toxicity if, using the Toxicity Characteristic Leaching Procedure, test Method 1311 in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846, as incorporated by reference in §260.11 of this chapter, the extract from a representative sample of the waste contains any of the contaminants listed in table 1 at the concentration equal to or greater than the respective value given in that table. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering using the methodology outlined in Method 1311, is considered to be the extract for the purpose of this section.
- (b) A solid waste that exhibits the characteristic of toxicity has the EPA Hazardous Waste Number specified in Table 1 which corresponds to the toxic contaminant causing it to be hazardous.

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

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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	Pentachlorophenol	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

¹Hazardous waste number.

²Chemical abstracts service number.

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

⁴If 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.

[55 FR 11862, Mar. 29, 1990, as amended at 55 FR 22684, June 1, 1990; 55 FR 26987, June 29, 1990; 58 FR 46049, Aug. 31, 1993; 67 FR 11254, Mar. 13, 2002; 71 FR 40259, July 14, 2006]

City of Georgetown Sewer Discharge Prohibited Waste

On the website, go to:

[Georgetown, Texas, Code of Ordinances >> - CODE OF ORDINANCES >> Title 13 - PUBLIC UTILITIES AND SERVICES >> CHAPTER 13.24. - INDUSTRIAL WASTE SEWER DISCHARGES >>](#)

CHAPTER 13.24. - INDUSTRIAL WASTE SEWER DISCHARGES

[Sec. 13.24.010. - Definitions.](#)

[Sec. 13.24.020. - Surcharge for wastes of abnormal strength—Cost for testing.](#)

[Sec. 13.24.030. - Surcharge rates—Review—Adjustment.](#)

[Sec. 13.24.040. - Prohibited wastes.](#)

[Sec. 13.24.050. - Pretreatment and control of industrial wastes.](#)

[Sec. 13.24.060. - Authority to disconnect service.](#)

[Sec. 13.24.010. - Definitions.](#)

As used in this **chapter**, the following terms shall have the respective meanings ascribed to them:

- "B.O.D.," (denoting biochemical oxygen demand) means the quantity of oxygen utilized in the biochemical oxidation of organic matter by standard methods procedure in five days at 20 degrees C., expressed in parts per million by weight.
- "City" means this City, or any authorized person acting in its behalf.
- "Domestic sewage" means water-borne wastes normally discharged from sanitary conveniences of dwellings, including apartment houses and hotels, office buildings, factories and institutions, free from storm surface water and industrial wastes. Normal domestic sewage means normal sewage for the City, in which the average concentration of suspended materials and five day B.O.D. is established at 250 parts per million each, by weight, on the basis of the normal contribution of 0.20 pounds per capita. It is further expressly provided that for purpose of this division, any waste that exceeds the above concentration of suspended materials and/or B.O.D. shall be classified as industrial wastes and made subject to all regulations pertaining thereto, whether or not such waste was partially of domestic origin.
- "Garbage" means solid wastes from the preparation, cooking and disposing of food, and from the handling, storage and sale of produce.
- "Industrial wastes" means all water-borne solids, liquids or gaseous wastes resulting from any industrial, manufacturing or food processing operation or process, or from the

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development of any natural resource, or any mixture of these with water or domestic sewage as distinct from normal domestic sewage.

- "Manager" means the City Manager or his authorized deputy, agent, or representative.
- "Milligrams per liter (mg/l)" means the same as parts per million and is a weight-to-volume ratio; the milligram per liter value multiplied by 8.34 is equivalent to pounds per million gallons of water.
- "Person, establishment or owner" means any person as defined in [Section 1.04.010](#), individual, firm, company, association, their agents, servants or employees.
- "pH" means the logarithm (base 10) of the reciprocal of the hydrogen-ion concentration of a solution.
- "Properly shredded garbage" means the wastes from the preparation, cooking and dispensing of food, exclusive of egg shells, bones, etc., that have been shredded to such degree that all particles will be carried freely under the flow conditions normally prevailing in public sewers, with no particles greater than one-half inch in any dimension.
- "Public sewer" means a sewer in which all owners of abutting properties shall have equal rights, and which is controlled by public authority.
- "Sanitary sewer" means a public sewer which carries sewage and to which storm, surface and ground waters are not intentionally admitted.
- "Sewage" means a combination of the water-carried wastes from residences, business buildings, institutions and industrial establishments.
- "Sewage works" means all facilities for collecting, pumping, treating and disposing of sewage.
- "Sewer" means a pipe or conduit for carrying sanitary sewage.
- "Sewage treatment plant" means any City-owned facility, devices and structures used for receiving and treating sewage from the City sanitary sewer systems.
- "Standard methods" means the laboratory procedures set forth in the latest edition, at the time of analysis, of Standard Methods for the Examination of Water and Waste Water as prepared, approved and published jointly by the American Public Health Association, the American Water Works Association and the Water Pollution Control Federation.
- "Storm water" means rainfall or any discharge resulting from any type of precipitation.
- "Suspended solids" means solids that either float on the surface, or are in suspension in water, sewage or other liquids, and which, in accordance with standard methods, are removable by laboratory filtering.
- "Unpolluted water or waste" means any water or waste containing none of the following: free or emulsified grease or oil; acid or alkali; phenols, or other substances in suspension, colloidal state or solution, and noxious or odorous gases. It shall contain no more than ten parts per million each of suspended solids and B.O.D. The color shall not exceed 50 units as defined by the standard platinum-cobalt method of determination.
- "Waste" means rejected, unutilized or superfluous substances in liquid, gaseous or solid form, resulting from domestic, agricultural or industrial activities.
- "Wastewater" means sewage combined with unpolluted water, storm water, ground or surface water.

(Prior code § 23-20)

- [Sec. 13.24.020. - Surcharge for wastes of abnormal strength—Cost for testing.](#)

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- A. The regular service charge for any person discharging wastes into the system shall apply provided the B.O.D. in the waste water or the suspended materials does not exceed the normal concentration of 250 parts per million. When either the B.O.D. or the suspended solids or both are found to exceed the stated 250 parts per million at the point entering the City's system, a surcharge shall be applied to the billing rate by multiplying the normal base rate by the factor obtained from dividing the actual measured B.O.D. by 250 and also by the factor obtained from dividing the actual measured suspended solids by 250, each such factor to be applied individually and only when greater than one. The surcharge will be made for each factor that exceeds one and shall be additive.
 - B. The determination of B.O.D. and suspended materials shall be by an independent laboratory selected by the City. The sample shall be a six-part composite sample taken by a City authorized collection. The time of selection of the sample shall be at the sole discretion of the City and is intended to be at random intervals.
 - C. When tests show that a surcharge should be applied, continued or increased over the base rates, the owner shall be billed at the rate of \$26.00 monthly for the B.O.D. and T.S.S. tests to cover lab fees. When a surcharge is in effect, the test will be conducted at least once each month. Should the customer desire a more frequent testing schedule for the purpose of averaging, the customer will be required to pay an additional \$75.00 for each additional combination of tests conducted. When such tests made by the City reveal that the surcharge is no longer applicable, no charge will be made to the customer for such tests.
 - (Ord. 97-01 § 2; prior code § 23-21)
- [Sec. 13.24.030. - Surcharge rates—Review—Adjustment.](#)
 - The City Council shall review on an annual basis and more frequently if desired by the Council, the basic sewer service charges and the surcharge rates. In making such reviews attention shall be given to changes in waste water treatment costs of the previous years, and if deemed advisable based on such reviews periodic adjustments of such rates shall be adopted.
 - (Prior code § 23-22)
 - [Sec. 13.24.040. - Prohibited wastes.](#)
 - A. No person shall discharge, or cause to be discharged, into any sanitary sewer any of the following described substances, material, waters, or wastes:
 - Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, waste streams with a closed cup flashpoint of less 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR 261.21;
 - Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, unless the works are specifically designed to accommodate such discharges;
 - Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW, resulting in interference;
 - Any pollutant, including oxygen demanding pollutants, released in a discharge at a flow rate and/or pollutant concentration which will cause interference with the POTW;
 - Heat in amounts which will inhibit biological activity in the POTW resulting in interference but in no case heat in such quantities that the temperature at the POTW

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treatment plant exceeds 40 degrees centigrade (104 degrees Fahrenheit) unless the approval authority, upon request of the POTW, approves alternate temperature limits;

- Petroleum oil, no-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;
- Pollutants which result in the presence of toxic gasses, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems;
- Any trucked or hauled pollutants, except at discharge points designated by the POTW;
- Heavy metals and other hazardous materials:
 - No discharges may contain concentrations of hazardous metals other than amounts specified in subsection (A)(7)(b) of this section.
 - The allowable concentrations of hazardous metals, in terms of milligrams per liter (mg/l) and determined on the basis of individual sampling in accordance with "Standard Methods" are:

	Metal	Not to Exceed		
		Average	Daily Composite	Grab Sample
1.	Arsenic	0.1	0.2	0.3
2.	Barium	1.0	2.0	4.0
3.	Cadmium	0.05	0.1	0.2
4.	Chromium	0.5	1.0	5.0
5.	Copper	0.5	1.0	2.0
6.	Lead	0.5	1.0	1.5
7.	Manganese	1.0	2.0	3.0
8.	Mercury	0.005	0.005	0.01
9.	Nickel	1.0	2.0	3.0
10.	Selenium	0.05	0.1	0.2
11.	Silver	0.05	0.1	0.2
12.	Zinc	1.0	2.0	6.0

- No other hazardous metals or toxic materials may be discharged into public sewers without approval of the City, specifying conditions of pretreatment, concentrations, volumes and other applicable provisions.
- Prohibited hazardous materials include but are not limited to:
 1. Antimony
 2. Beryllium
 3. Bismuth
 4. Cobalt
 5. Molybdenum

6. Uranyl ion
7. Rhenium
8. Strontium
9. Tellurium
10. Herbicides
11. Fungicides
12. Pesticides

- No person, establishment or owner may discharge to public sanitary sewers:
 1. Unpolluted storm water, surface water, groundwater, roof runoff or subsurface drainage;
 2. Unpolluted cooling water;
 3. Unpolluted industrial process waters;
 4. Other unpolluted drainage;
 5. or make any new connections from inflow sources.
- In compliance with the Texas Water Quality Act and other statutes, the City may designate storm sewers and other watercourses into which unpolluted drainage described in subsection (A)(7)(e) of this section may be discharged.
- No person, establishment or owner may discharge radioactive wastes or isotopes into public sewers without the approval of the City.
- The City may establish, in compliance with applicable State and Federal regulations, regulations for discharge of radioactive wastes into public sewers.

B. Except in quantities, or concentration, or with provisions as stipulated in this section, it is unlawful for any person to discharge water or wastes to the sanitary sewer containing:

- Free emulsified oil and grease exceeding on analysis an average of 100 parts per million (833 pounds per million gallons) of either or both or combinations of free or emulsified oil and grease, if, in the opinion of the Manager, it appears probable that such wastes:
 - Can deposit grease or oil in the sewer lines in such a manner as to clog the sewers;
 - Can overload skimming and grease handling equipment;
 - Are not amenable to bacterial action and will therefore pass to the receiving waters without being affected by normal sewage treatment processes; or
 - Can have deleterious effects on the treatment process due to the excessive quantities.
- Acids or alkalis which attack or corrode sewers or sewage disposal structures, or have a pH value lower than 5.5 or higher than 9.5;
- Cyanide or cyanogen compounds capable of liberating hydrocyanic gas on acidification in excess of two parts per million by weight as CN in the wastes from any outlet into the public sewers;
- Materials which exert or cause:
 - Unusual concentrations of solids or composition, as for example, total suspended solids of greater than 250 parts per million of inert nature or

such as Fuller's Earth and/or total dissolved solids such as sodium chloride, or sodium sulfate;

- Excessive discoloration;
 - Biochemical oxygen demand or an immediate oxygen demand greater than 250 parts per million;
 - High hydrogen sulfide content; or
 - Unusual flow and concentration shall be pretreated to a concentration acceptable to the City water and sewer system if such wastes can cause damage to collection facilities, impair the processes, incur treatment cost exceeding those of normal sewage, or render the water unfit for stream disposal or industrial use.
 - (Ord. 92-31 § 2, 1992; prior code § 23-23)
- [Sec. 13.24.050. - Pretreatment and control of industrial wastes.](#)
 - A. Persons discharging industrial wastes which exhibit any of the prohibited wastes set out in this article shall be required to pretreat said wastes or otherwise dispose of such wastes so as to make the remaining waste acceptable to the City prior to admission of said waste into a sanitary sewer.
 - B. Plans, specifications and any other pertinent information relating to proposed preliminary treatment and control facilities shall be submitted for the approval of the City, and no construction of such facilities shall be commenced until approval is obtained in writing. Preliminary treatment and control facilities shall be constructed so as to provide all of the following:
 - Prevention of prohibited waste from entering a sanitary sewer;
 - Control of the quantities and rates of discharge of industrial wastes into a sanitary sewer; and,
 - An accessible entry so that any authorized employee of the City may readily and safely measure the volume and samples of the flow prior to the admission of said industrial wastes into a sanitary sewer.
 - C. When preliminary treatment and control facilities are provided for any water and wastes, they shall be maintained continuously in satisfactory and effective operation by the owner at his expense.
 - D. The Manager and other duly authorized employees of the City acting as his duly authorized agent and bearing proper credentials and identification, shall be permitted to access to such properties as may be necessary for the purpose of inspection, observation, measurement, sampling and testing of sewage and/or industrial wastes.
 - (Prior code § 23-24)
 - [Sec. 13.24.060. - Authority to disconnect service.](#)
 - The City retains the right to disconnect water or wastewater service under the following circumstances:
 1. When a person, establishment or owner discharges waste or wastewater that is in violation of the industrial waste **chapter** (this **chapter**) or approvals obtained in accordance with this **chapter**;
 2. When a person, establishment, or owner fails to make payments due in accordance with the user charges set forth in [Section 13.04.140](#)

3. At such other times as provided by law or when necessary to protect the City or its inhabitants.
 - (Prior code § 23-25)

Hazardous Product Purchasing Guide

Our hazard communication and hazardous waste programs require departments to effectively:

- centrally manage chemical purchases and chemical inventory
- protect human health and safety by reviewing processes, substituting to less hazardous chemicals, eliminating hazardous processes that cannot be controlled with mechanical ventilation (source capture)
- reduce our hazardous waste disposal costs and impact on environment

Avoid strong solvent based products unless a necessity and approved by instructor/supervisor. If these solvents are used, set up proper mechanical ventilation to exhaust vapors to the outside environment.

Alternative low VOC solvent products to consider:

SOYGOLD 2500 Rinseable Solvent AG Environmental Products, LLC. Omaha, NE	Mirachem Pressroom Cleaner 2501 Mirachem Corp. Tempe, AZ
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If the alternative solvent products do not meet your needs and traditional solvents are deemed necessary, substitute to Low Odor Solvents

Odorless Mineral Spirits
Denatured Alcohol
Odorless VM&P Naphtha
Odorless Paint Thinner
Non-Solvent Alternative Cleaners

Eliminate Hazardous Solvents/Products

Paint Thinner	MEK
Lacquer Thinner	Toluene
Turpentine (gum turpentine)	Xylene
Mineral Spirits	n-Hexane
Acetone	

NOTE: Substitution to less hazardous preferred solvents/paints does not mean these products are safe to use! Best practices should integrate the use of proper engineered ventilation, keeping evaporation of solvent to a minimum and using properly selected personal protective equipment. The instructor/supervisor is responsible for ensuring the proper use of PPE for staff/students.

Water-based products offer three advantages. They have a lower amount of harmful vapors, they do not require the additional use of hazardous solvents to clean-up, and there are no hazardous wastes to store, inventory, label or dispose of.

Low Odor, Water-based (less hazardous product list): Home Depot – IH 35 next to Wal-Mart

- Latex Paint (If you want a hard glossy type finish, similar to oil-based, buy a 100% acrylic latex paint)
- Minwax water-based stains
- Minwax Polyacrylic Finish (this is a substitute for the more toxic polyurethane)
- Elmers Wood Glue
- Klean-Strip Odorless Mineral Spirits
- **Crown Odorless Paint Thinner** is an excellent artist quality thinner. The odorless substitute for Turpentine. For use in reducing artist oil colors and most brush-applied alkyd and oil-type paints, varnishes, and enamels. Improves brushing qualities. Cleans palettes, brushes, rollers, and spray equipment. Removes dirt and grease from surface before painting

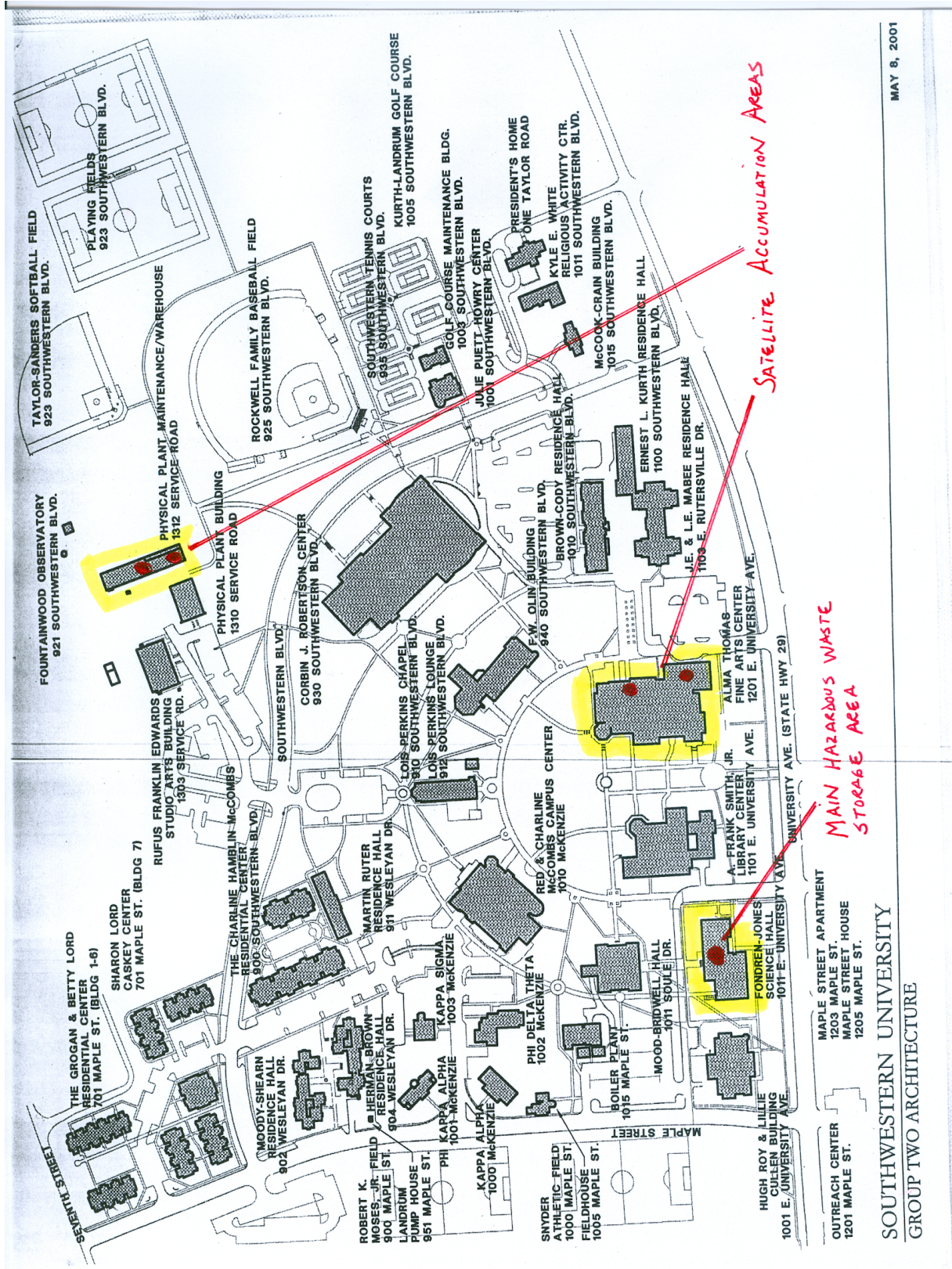
Caution: Hazardous Glazes – Avoid Toxic Metals

Caution: These glazes can be toxic during mixing and handling, as well as having potential for toxic effects from leaching during use, after fired and finished.

- Lead
- Cadmium
- Antimony
- Arsenic
- Barium
- Lithium
- Uranium
- Chromium
- Cobalt
- Manganese
- Nickel
- Vanadium
- Mercury

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Date:

Approved (signature and date):

Supervisor _____

Director of Physical Plant _____

AVP for Facilities _____

Vice President for Fiscal Affairs If needed _____

Copy:

All supervisors _____

Related crafts _____

Department Heads _____

VP's _____

President _____