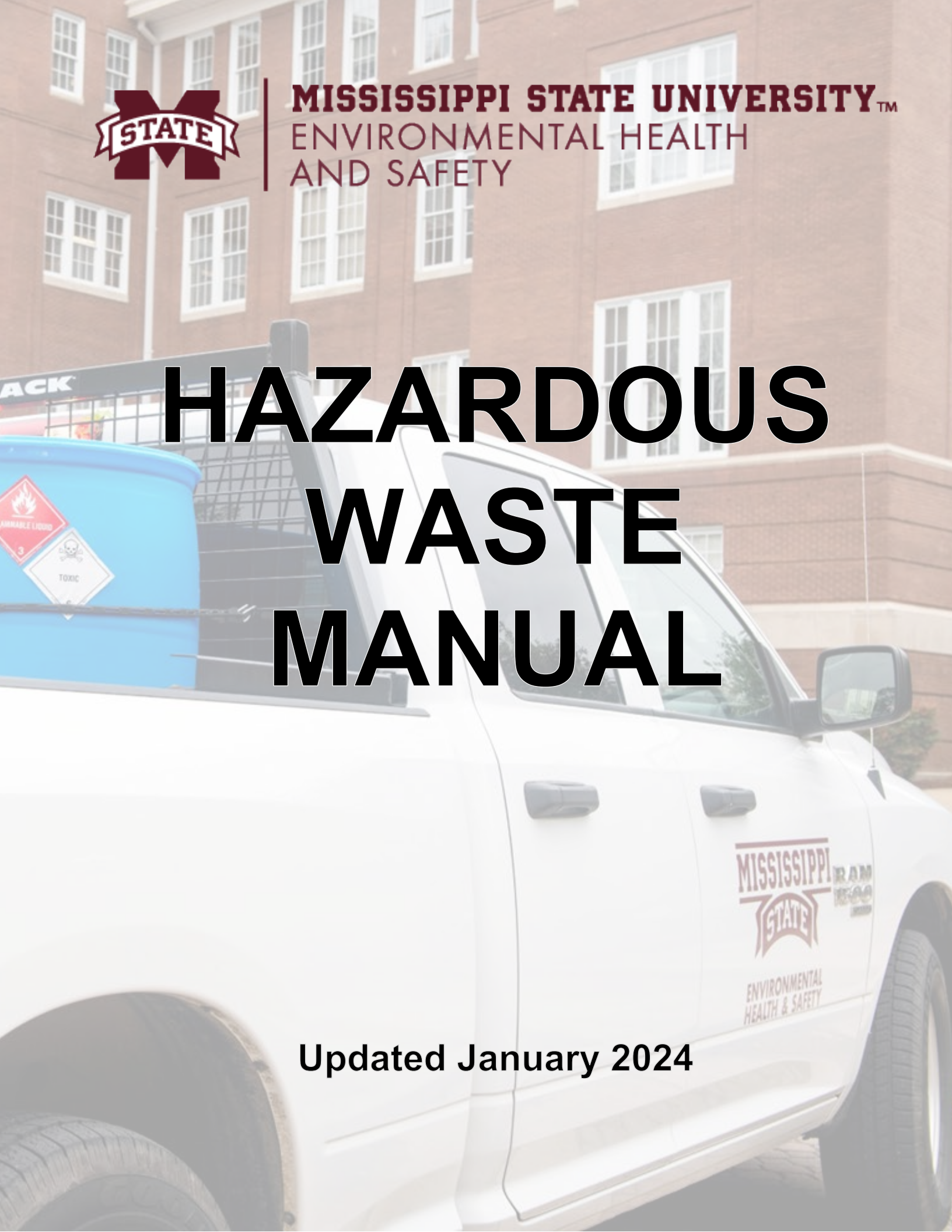
MISSISSIPPI STATE UNIVERSITY™
ENVIRONMENTAL HEALTH AND SAFETY

HAZARDOUS WASTE MANUAL



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MISSISSIPPI STATE UNIVERSITY™
ENVIRONMENTAL HEALTH AND SAFETY

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INTRODUCTION AND SCOPE

Purpose

The purpose of this manual aims to serve as a guide for Mississippi State University (MSU) faculty, staff and students who generate hazardous waste.

The procedural guidelines included in this manual are intended to aid personnel in establishing practices that promote safety for our employees as well as compliance with federal and state regulations. It is important for all generators of hazardous waste at MSU to understand and adopt these policies in their work environments.

Federal and state laws regulate the labeling, handling, treatment, storage, transportation, and disposal of hazardous waste. Proper documentation is required for all phases of generation, storage and disposal in order to maintain compliance. MSU is subject to scheduled and unscheduled inspections from officers representing federal and state regulatory agencies.

Non-compliance violations may result in costly fines and may affect MSU's ability to receive grants from public and private funding agencies. Therefore, each laboratory, studio, etc., generating hazardous waste should have a current copy of this manual available to its personnel.

Regulatory Authority

The storage and disposal of hazardous waste at MSU complies with regulations established by the United States Environmental Protection Agency (EPA) and the Mississippi Department of Environmental Quality (MDEQ). The transportation of hazardous waste is regulated by the United States Department of Transportation (DOT). As a generator of hazardous waste, MSU is perpetually responsible for any damage to the environment or personal property due to hazardous waste activity at its facilities.

The Starkville campus of MSU is classified by EPA as a Large Quantity Generator (LQG). Mandated training, storage, disposal, and reporting requirements applicable to all LQGs must be followed. These mandates may vary from those followed by other businesses or universities. These requirements, largely dependent on generator status, may differ for MSU generators whose locations are non-contiguous to main campus. Details regarding the status of such properties may be obtained from the EH&S.

Responsibilities

This publication is a service of the Environmental Health & Safety (EH&S), a division of the Office of Compliance and Risk Management.

The Hazardous Waste Officer (HWO) advises and assists MSU personnel in following proper procedures for the disposal of hazardous wastes. The HWO is responsible for maintaining the necessary documentation relating to hazardous waste generation and disposal. **Hazardous waste must not enter or exit campus without knowledge and approval of the HWO**.

Each department or unit head should be aware of the nature of the wastes generated by their

operations since they are responsible for the compliance of their organizations. Department and unit heads should ensure that department operations follow these policies for the safe and compliant disposal of any hazardous waste generated by their departments or units. The HWO is available to assist departments in managing waste streams and in estimating costs for future disposal of potential waste streams.

Each department or unit should designate one person to act as the contact person between the department/unit and the EH&S. For larger units it may be necessary to have more than one contact person. This designated individual(s) is considered by the EH&S as a manager of the department's waste streams, and this individual has operational authority to implement the hazardous waste management system within the unit or department. The department or unit head, however, maintains responsibility for unit compliance.

It is the responsibility of the individual generator to notify the departmental contact person or the HWO in the event that activities generate hazardous waste. The generator is responsible for the complete identification of the waste, including proper labeling on the waste container. Additionally, the generator is responsible for ensuring that all wastes are stored in proper containers as specified by the HWO.

Hazardous Waste Disposal Charges

Prices for disposal costs are estimated on current market prices and are shared with faculty members, who wish to include such costs in their funding proposals, as estimations only. Charges on invoices reflect actual costs, which may be higher than originally indicated, as a result of time lapsed and condition of the waste material, which often affects chemical stability.

Occasionally, it may be necessary to stabilize the hazardous waste before it can be shipped over public roadways. Costs such as these are incurred only by the department or unit generating such particular waste.

DEFINITIONS

Hazardous Waste

The term "hazardous waste" is a legal term and must not be used indiscriminately. In order for a material to be a hazardous waste it must first be identified as a "solid waste", which is defined by EPA as any solid or containerized liquid or gas that has been used for its intended purpose or is slated for disposal.

The term "hazardous waste" refers to a solid waste meeting the EPA-defined criteria for identifying the characteristics of hazardous waste or for listing hazardous waste. For reference, these criteria are given in Appendix I.

The characteristic hazardous waste and associated hazardous waste codes (HW codes) are:

- Ignitability – D001
- Corrosivity – D002
- Reactivity – D003
- Toxicity – D004-D043

Listed hazardous waste and associated waste codes are:

- Hazardous waste from non-specific sources – F-code
- Hazardous waste from specific sources – K-code
- Discarded commercial chemical products, off-specification species, container residues, and spill residues
    - o Acute hazardous wastes – P-code
    - o Toxic wastes – U-code

Definitions for each of the characteristics is given in Appendix II (A, B, C, and D, respectively) and the lists of hazardous wastes are given in Appendix III (A, B, and C, respectively). These appendices may be used to assist individuals in making hazardous waste determinations. Additional assistance is available by contacting the EH&S or the HWO.

Mixed Waste

A mixed waste is a radiological waste that also meets the definition of a hazardous waste.

Such waste must be handled as radioactive and requires special handling and disposal. The Radiological Safety Officer (RSO) handles all mixed wastes at MSU. Contact the EH&S for assistance in determining whether or not a suspect waste is a mixed waste.

Universal Waste

As an LQG, MSU must account for the disposal of its Universal Wastes, which are also subject to EPA regulations. These wastes include used oil, fluorescent light bulbs, and batteries. Currently, these are shipped to licensed recyclers and associated costs are significantly less than typical hazardous waste disposal costs.

1. Used oil and oil filters – Used motor oil, hydraulic fluid, refrigerant oil, and vacuum pump oil are pooled into drums and recovered for future use by a licensed oil recycler. Oil filters must be shipped as hazardous waste unless they are gravity hot-drained. If they have been hot-drained, they may be disposed as regular trash after they have been crushed or dismantled.

Correct **Incorrect**

2. Fluorescent light bulbs – Mercury-bearing fluorescent bulbs are regulated for disposal and must be collected at Facilities Management located in the Gast Building (103 Robert Louis Jones Cir). They must be collected in boxes that are labeled and closed at all times and dated when filled. All persons handling fluorescent bulbs are required to complete an annual training seminar, designed specifically for light bulbs procedures. Fluorescent bulbs with green tips or green writing have lower mercury content but are still regulated.

Universal Waste Bulbs

3. Batteries – Sealed cell batteries such as nickel-cadmium, alkaline, lithium ion, nickel metal hydride, and lead acid must be collected for recycling through the EH&S and should not be disposed as regular trash. These include batteries from computer notebooks, cellular telephones, radios, and emergency lights.

Battery Disposal

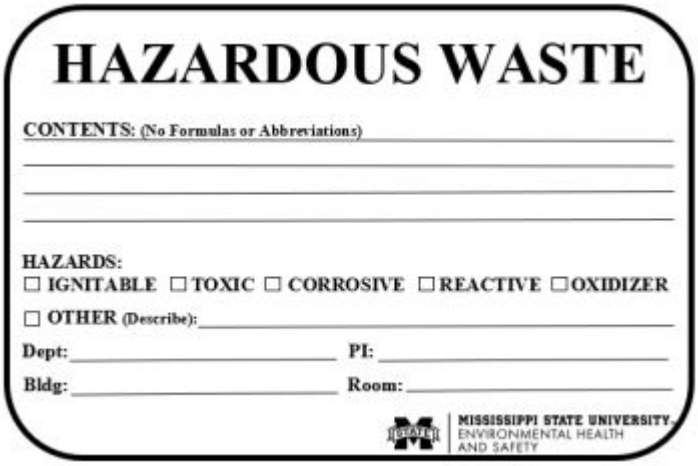
HAZARDOUS WASTE MANAGEMENT PROCEDURES

Hazardous Waste Management Training

All individuals who handle hazardous materials must complete an initial training program for hazardous waste, followed by annual refresher training. Currently this training is offered by EH&S in two methods: "live" training (conducted by EH&S personnel) and online training (via Canvas). It is the responsibility of the department or unit head to submit names of new personnel to the EH&S for registration in this training process. Training records will be maintained by the EH&S.

Hazardous Waste Containers

All waste containers must be properly labeled. It is the generator's responsibility to provide an adequate description of any waste generated. Each waste container must be labeled "hazardous waste" and must contain a description of its contents. Unlabeled or incompletely labeled containers will be treated as unknown wastes.



Unknown wastes carry significantly higher disposal costs. Additionally, unknowns must be screened for EPA waste characteristics prior to shipment for disposal. *The costs associated with the screening and disposal of unknown wastes rests with the Principal Investigator (PI) of the laboratory responsible for generating the waste.*

Waste containers must be closed except when adding waste material to the container. There are no exceptions to this requirement. A funnel draining into the waste container does NOT constitute a lid or cap. After adding the waste to the container, remove the funnel and replace the lid or cap on the container.

Waste containers must be compatible with the wastes they contain. The HWO is available for consultation when establishing a particular waste stream to discuss appropriate container types and sizes.

The transportation of hazardous waste across campus must be accomplished using USDOT-

approved containers. Hazardous waste in non-approved containers must be over- packed prior to transportation. DOT-approved containers are available in five, fifteen, twenty, thirty, and fifty-five-gallon sizes. Contact the EH&S office for details.

Satellite Accumulation Area (SAA)

Areas must be identified within the laboratory, studio, etc., for the storage of wastes until they can be transported to MSU's hazardous waste storage facility. When a waste container is filled to 80% capacity, the unit contact person should contact the EH&S office immediately to request a waste pick-up.

Such collection areas will be periodically inspected by the HWO, and must have the following characteristics:

1. They must be posted to identify that hazardous wastes are stored there.
2. They must be identified with the name of the unit contact person.
3. They must be relatively secure, yet close to the point of generation, and in a low traffic area, and readily accessible for removing the stored material.
4. They must include some precautions to minimize the effects of an accident or spill.

Combining Hazardous Waste

Small quantities of wastes are often generated as a result of hazardous materials being used in research and teaching laboratories. It is desirable in such cases to consolidate wastes for easier handling and to reduce the cost of disposal. It is essential that good judgment be used in the blending of wastes.

Two different considerations must be taken into account when blending wastes. First, wastes are to be segregated by chemical compatibility. Never blend materials that can react violently, give off large amounts of heat, or undergo polymerization. The other consideration concerns segregating those compounds with special regulatory status or which have been banned from certain types of disposal. Adding a small amount of a particular material that a waste disposal company will not accept into a large container of acceptable waste, creates a large volume of waste that the company will not accept. Even if accepted for disposal the cost will be greatly increased.

Along with assistance from the EH&S office, the following guidelines should produce proper actions when wastes are combined:

1. Certain materials should never be blended with other wastes. These materials include polychlorinated biphenyls (PCB's), dioxins, dibenzofurans, pentachlorophenol, 2,4,5-T herbicides, and mercury.
2. Materials listed in 40 CFR 261.33(e) as acutely toxic (i.e., P coded wastes) should not be mixed with other wastes.
3. Wastes that are hazardous due to ignitability should not be blended with wastes high in sulfur, nitrogen, or halogens. This group of ignitable wastes includes aromatic solvents, alkenes, alcohols, aldehydes, and ketones.

4. Aliphatic oils such as crankcase oils and vacuum pump oil should not to be combined with other wastes. At present, these oils can be recycled at no cost to the generator, if the volume does not exceed 5 gallons.
5. Halogenated solvents should not be mixed with nonhalogenated solvents.
6. Corrosive wastes such as acids and bases should not be blended with other wastes.
7. Wastes that are very heterogeneous in nature, such as still bottoms, reaction mixture by-products, and similar materials should not be blended with other wastes.

Chemical Management

Proper management of chemicals is mandated in state and federal regulations. An experienced faculty or staff member should be assigned to monitor the chemical holdings in each department or unit. This person should ensure the following:

1. Chemicals are always labeled. Chemicals without labels are difficult and costly to identify and may be inferred by EPA as unlabeled waste or as "inherently waste-like" material, which can lead to violations and subsequent fines.
2. Containers are monitored for leaks or spills. Spilled chemicals may become regulated waste if the waste material (including clean up debris) carries an EPA characteristic of hazardous waste or is a specifically listed hazardous waste. Failure to control or repair a leak or spill may result in violations and fines for the generator.
3. Surplus chemicals are given reasonable expiration dates after which they should be disposed of properly. Unwanted chemicals may degrade to dangerous or unstable products over time. Such conditions may warrant costly stabilization procedures or may even produce dangerous scenarios in the workplace.
4. Waste chemicals should be identified in a timely fashion and the HWO notified to arrange disposal. There are strict time limits on how soon a waste must be removed from satellite storage areas.
5. Access to the chemical storage area is restricted to those with a need to enter.
6. Annual inspections of the chemical storage area should be conducted to assess surplus/waste status of chemicals.

Failure to adequately maintain chemicals and chemical storage areas may result in costly fines, accidents for the department, and increased disposal costs. Associated fines and disposal costs will be assessed to departments responsible for the chemicals or the associated area.

Empty Chemical Containers

Compressed gas cylinders are empty when the pressure in the container approaches atmospheric. If non-returnable gas cylinders are used, it is advisable to completely consume the contents before discarding. Non-returnable cylinders with gas remaining inside may constitute a hazardous waste depending on the gas.

A container that has held an acute (P-code or F027) hazardous waste is empty if the container has been triple rinsed using an appropriate solvent. Once the container is triple rinsed, it may be discarded as trash. Note that the rinsate is a hazardous waste carrying the same waste code as the

original contents and possibly the waste code of the solvent. For pesticide wastes that would carry a P-code, the rinsate may be tank mixed and applied in the same manner as the pesticide; i.e., in accordance with the pesticides label.
For all other containers that have held a hazardous waste, the container is defined as empty provided:

1. All wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating, *and*
2. No more than 2.5 cm (1 inch) of residue remains on the bottom of the container,

or

3. No more than 3% by weight of the total capacity of the container remains in the container if the container is less than or equal to 110 gallons. For containers of 110 gallons or more, no more than 0.3% can remain in the container.

Given the definition above for an empty container, it is recommended that additional steps be taken before discarding so defined empty containers. Some of the recommendations are:

1. For containers, empty as defined above, but that have held volatile and/or flammable solvents, the container should be placed in a chemical fume hood allowing the remaining contents to evaporate. Before doing so, the container must be labeled as empty. Acceptable forms of labeling are "Empty" or "MT".
2. For containers, empty as defined above, but that have corrosive materials, the container should be carefully rinsed with water before discarding.

Contact the EH&S office if you have any questions not addressed above regarding discarding empty containers.

Hazardous Waste Generated from Research Projects

University researchers are required to indicate on Sponsored Programs Administration's Internal Approval Sheets if proposed research will generate hazardous waste. All requests for funding should include adequate support to cover disposal costs. The HWO can assist researchers with disposal estimates.

Hazardous Waste Treatability Studies

Hazardous waste may neither leave nor enter the MSU campus without the knowledge and written permission of the HWO. In all cases, hazardous waste will not be removed from nor enter the MSU campus unless packaged in USDOT-approved containers. These containers must be properly marked, labeled, manifested, and transported by a fully permitted and insured hazardous waste transporter. Hazardous waste manifests must be signed by the EH&S office personnel.

It is unlawful to transport hazardous waste on public highways without the material being properly marked and manifested. Vehicles used for transportation of waste must be insured and placarded, and drivers of such vehicles must conform to 40 CFR 263 as a transporter of hazardous waste.

For reasons listed above, researchers wishing to conduct treatability studies involving hazardous wastes, must comply with the above as well as all state and federal regulations pertinent to

treatability studies. For example, notice to MDEQ must be made 45 days prior to beginning a treatability study (i.e., 45 days prior to bringing the treatability study sample onto campus). This notification must be written and signed by the researcher, department head, contact person and the HWO. Other applicable regulations include size limitations of samples, waste disposal from studies, and record keeping and reporting.

Contact the EH&S office for more information regarding treatability studies.

Photographic and Printing Hazardous Waste

Waste fixers and developers used in photographic development will often contain sufficient amounts of silver to characterize them as hazardous waste. Markets do exist for recovering the silver, however the silver content in most of these chemicals is not sufficient to justify the process.

In addition to developers and fixers, there are other photographic and printing chemicals that utilize regulated materials. Some include strong bases, such as potassium hydroxide, and others contain formaldehyde. Some solvents used in cleaning print machines may contain perchloroethylene, which is another regulated waste.

Any unit generating such wastes should contact the EH&S office for assistance in disposal.

Art Studio Hazardous Waste

Paints, thinners, glazes and etching solutions may be regulated as hazardous waste due to the levels of toxic metals contained in them or due to their flammable or corrosive properties.
Spilled material (including debris) from these sources or unused/off-spec material should be collected as hazardous waste and disposed through the EH&S office.

Safety Data Sheet (SDS)

Safety Data Sheets (SDS) contain valuable information for employees who work with hazardous materials. A SDS describes the safe handling, proper storage, and physical properties of each chemical for which it is issued. Personnel handling hazardous materials should be aware of the physical properties of these chemicals so that the safety of the work environment is not threatened. Many laboratory accidents are the result of lack of knowledge regarding the proper storage of chemicals.

Departments should provide a SDS to employees for each of the chemicals utilized in each work area. Employees should have access to a SDS (appropriate to their work area) during times they are expected to work with these chemicals. The EH&S office has posted several links on its website to help MSU employees locate a SDS on the Internet. A SDS can also be requested from the chemical's manufacturer, or quite often, downloaded directly from the manufacturer's website. If a particular SDS cannot be located through these channels, then personnel may contact EH&S.

APPENDIX

Appendix I. Criteria for Identifying Hazardous Waste

Criteria for identifying the characteristics of hazardous waste. (Ref: 40 CFR 261.10)

(a) The Administrator shall identify and define a characteristic of hazardous waste in subpart C only upon determining that:

(1) A solid waste that exhibits the characteristic may:

(i) Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or

(ii) Pose a substantial present or potential hazard to human health or the environment when it is improperly treated, stored, transported, disposed of or otherwise managed; and

(2) The characteristic can be:

(i) Measured by an available standardized test method which is reasonably within the capability of generators of solid waste or private sector laboratories that are available to serve generators of solid waste; or

(ii) Reasonably detected by generators of solid waste through their knowledge of their waste.

Criteria for listing hazardous waste. (Ref: 40 CFR 261.11)

(a) The Administrator shall list a solid waste as a hazardous waste only upon determining that the solid waste meets one of the following criteria:

(1) It exhibits any of the characteristics of hazardous waste identified in subpart C.

(2) It has been found to be fatal to humans in low doses or, in the absence of data on human toxicity, it has been shown in studies to have an oral LD50 toxicity (rat) of less than 50 milligrams per kilogram, an inhalation LC50 toxicity (rat) of less than 2 milligrams per liter, or a dermal LD50 toxicity (rabbit) of less than 200 milligrams per kilogram or is otherwise capable of causing or significantly contributing to an increase in serious irreversible, or incapacitating reversible, illness. (Waste listed in accordance with these criteria will be designated Acute Hazardous Waste.)

(3) It contains any of the toxic constituents listed in appendix VIII and, after considering the following factors, the Administrator concludes that the waste is capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed: [261.11(a)(3) introductory text amended at 57 FR 14, Jan. 2, 1992]

(i) The nature of the toxicity presented by the constituent.

(ii) The concentration of the constituent in the waste.

(iii) The potential of the constituent or any toxic degradation product of the constituent to migrate from the waste into the environment under the types of improper management considered in paragraph (a)(3)(vii) of this section.

(iv) The persistence of the constituent or any toxic degradation product of the constituent.

(v) The potential for the constituent or any toxic degradation product of the constituent to degrade into non-harmful constituents and the rate of degradation.

(vi) The degree to which the constituent or any degradation product of the constituent bioaccumulates in ecosystems.

(vii) The plausible types of improper management to which the waste could be subjected.
(viii) The quantities of the waste generated at individual generation sites or on a regional or national basis.
(ix) The nature and severity of the human health and environmental damage that has occurred as a result of the improper management of wastes containing the constituent.
(x) Action taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste or waste constituent.
(xi) Such other factors as may be appropriate.
Substances will be listed on Appendix VIII only if they have been shown in scientific studies to have toxic, carcinogenic, mutagenic or teratogenic effects on humans or other life forms. (Wastes listed in accordance with these criteria will be designated Toxic wastes.)

(b) The Administrator may list classes or types of solid waste as hazardous waste if he has reason to believe that individual wastes, within the class or type of waste, typically or frequently are hazardous under the definition of hazardous waste found in section 1004(5) of the Act. The Administrator will use the criteria for listing specified in this section to establish the exclusion limits referred to in 261.5(c).

Appendix II. Characteristic Hazardous Waste

A. Ignitability (D001)

Characteristic of ignitability. (Ref: 40 CFR 261.21)
(a) A solid waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties:
(1) It is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume and has flash point less than 60ºC (140ºF), as determined by a Pensky-Martens Closed Cup Tester, using the test method specified in ASTM Standard D-93-79 or D-93-80 or a Setaflash Closed Cup Tester, using the test method specified in ASTM Standard D-3278-78, or as determined by an equivalent test method approved by the MDEQ or EPA.
(2) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard.
(3) It is an ignitable compressed gas as defined by DOT (Ref: 49 CFR 173.300) and as determined by the test methods described in that regulation or equivalent test methods approved by MDEQ or EPA.
(4) It is an oxidizer as defined by DOT (Ref: 49 CFR 173.151).
(b) A solid waste that exhibits the characteristic of ignitability has the EPA Hazardous Waste Number of D001.

B. Corrosivity (D002)

Characteristic of corrosivity. (Ref: 40 CFR 261.22)

(a) A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties:
   (1) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using Method 9040 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846.
   (2) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55ºC (130ºF) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69 as standardized in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846.

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

C. Reactivity (D003)

Characteristic of reactivity. (Ref 40 CFR 261.23)

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

(b) A solid waste that exhibits the characteristic of reactivity has the EPA Hazardous Waste Number of D003.

D. Toxicity (D004 – D043)

Toxicity characteristic. (Ref: 40 CFR 261.24)

(a) A solid waste exhibits the characteristic of toxicity if, using the Toxicity Characteristic Leaching Procedure (TCLP), test Method 1311 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, 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 I 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
D030	2,4-Dinitrotoluene.....	121-14-2	30.13
D012	Endrin.....	72-20-8	0.02
D031	Heptachlor (and its epoxide)…	76-44-8	0.008
D032	Hexachlorobenzene.....	118-74-1	30.13
D033	Hexachlorobutadiene.....	87-68-3	0.5
D034	Hexachloroethane.....	67-72-1	3.0
D008	Lead.....	7439-92-1	5.0
D013	Lindane.....	58-89-9	0.4
D009	Mercury.....	7439-97-6	0.2
D014	Methoxychlor.....	72-43-5	10.0
D035	Methyl ethyl ketone.....	78-93-3	200.0
D036	Nitrobenzene.....	98-95-3	2.0
D037	Pentrachlorophenol.....	87-86-5	100.0
D038	Pyridine.....	110-86-1	35.0
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

[1] Hazardous waste number.
[2] Chemical abstracts service number.
[3] Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.
[4] If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 mg/l.

Appendix III. Listed Hazardous Waste

EPA indicates its basis for listing the classes or types of wastes listed by employing one or more of the following Hazard Codes:

Ignitable Waste.....	(I)
Corrosive Waste.....	(C)
Reactive Waste.....	(R)
Toxicity Characteristic Waste.....	(E)
Acute Hazardous Waste.....	(H)
Toxic Waste.....	(T)

A. Hazardous waste from non-specific sources (F-code)

(Ref: 40 CFR 261.31)

The following solid wastes are listed hazardous wastes from non-specific sources.

Industry and EPA hazardous waste No. Generic:	Hazardous Waste	Hazard Code
F001.....	The following spent halogenated solvents used in degreasing: Tetrachloroethylene trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solents 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 on-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures	(I)*
F004.....	The following spent non-halogenated solvents: Cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures	(T)
F005.....	The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more	(I,T)

	(by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures	
F006.....	Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum	(T)
F007.....	Spent cyanide plating bath solutions from electroplating operations	(R, T)
F008.....	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process	(R, T)
F009.....	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process	(R, T)
F010.....	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process	(R, T)
F011.....	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations	(R, T)
F012.....	Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process	(T)
F019.....	Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process	(T)
F020.....	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri-or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol.)	(H)
F021.....	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives	(H)
F022.....	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions	(H)
F023.....	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri-and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of Hexachlorophene from highly purified 2,4,5-trichlorophenol)	(H)
F024.....	Process wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor clean-out wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. This listing does not include wastewaters, wastewater treatment sludges, spent catalysts, and wastes listed in 261.31 or 261.32.)	(T)
F025.....	Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated	(T)

	aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution	
F026.....	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions	(H)
F027.....	Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing Hexachlorophene sythesized from prepurified 2,4,5-trichlorophenol as the sole component.)	(H)
F028.....	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027	(T)
F032[1].....	Wastewaters, process residuals, preservative drippage, and spent formulations from wood pre-serving 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 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. (Note: The listing of wastewaters that have not come into contact with process contaminants is stayed administratively. The listing for plants that have previously used chlorophenolic formulations is administratively stayed whenever these wastes are covered by the F034 or F035 listings. These stays will remain in effect until further administrative action is taken.)	(T)
F034[1].....	Wastewaters, process residuals, preservative drippage, and spent formulations from wood pre-serving process 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. (Note: The listing of wastewaters that have not come into contact with process contaminants is stayed administratively. The stay will remain in effect until further administrative action is taken.)	(T)
F035[1].....	Wastewaters, process residuals, preservative drippage, and spent formulations from wood pre-serving process 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. (Note: The listing of wastewaters that have not come into contact with process contaminants is stayed administratively. The stay will remain in effect until further administrative action is taken.)	(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	(T)

	additional units after wastewaters have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing	
F038.....	Petroleum refinery secondary (emulsified) oil/water/solids separation sludge-Any sludge and/or float generated from the physical and/or chemical separation of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries. Such wastes include, but are not limited to, all sludges and floats generated in: induced air flotation (IAF) units, tanks and impoundments, and all sludges generated in DAF units. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment units as defined in 261.31(b)(2) (including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and F037, K048, and K051 wastes are not included in this listing	(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)
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)

B. Hazardous waste from specific sources (K-code)

(Ref: 40 CFR 261.32)

Specific industrial source/process solid waste characterized as hazardous by EPA are classified as K-coded waste. MSU does not generate any hazardous waste from such sources. Therefore, the list of K-code waste are not provided in this manual.

Discarded commercial chemical products, off specification species, container residues, and spill residues

(Ref: 40 CFR 262.33)

C. Acute hazardous wastes (P-code)

The following commercial chemical products, manufacturing chemical intermediates or off-specification commercial chemical products or manufacturing chemical intermediates are identified as acute hazardous wastes (H). 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.

These wastes and their corresponding EPA Hazardous Waste Numbers are:

Hazardous waste No.	Chemical abstracts No.	Substance
P023	107-20-0	Acetaldehyde, chloro-
P002	591-08-2	Acetamide, N-(aminothioxomethyl)-
P057	640-19-7	Acetamide, 2-fluoro-
P058	62-74-8	Acetic acid, fluoro-, sodium salt
P002	591-08-2	1-Acetyl-2-thiourea
P003	107-02-8	Acrolein
P070	116-06-3	Aldicarb
P004	309-00-2	Aldrin
P005	107-18-6	Allyl alcohol
P006	20859-73-8	Aluminum phosphide (R,T)
P007	2763-96-4	5-(Aminomethyl)-3-isoxazolol
P008	504-24-5	4-Aminopyridine
P009	131-74-8	Ammonium picrate (R)
P119	7803-55-6	Ammonium vanadate
P099	506-61-6	Argentate(1-), bis(cyano-C)-, potassium
P010	7778-39-4	Arsenic acid H_3AsO_4
P012	1327-53-3	Arsenic oxide As_2O_3
P011	1303-28-2	Arsenic oxide As_2O_5
P011	1303-28-2	Arsenic pentoxide
P012	1327-53-3	Arsenic trioxide
P038	692-42-2	Arsine, diethyl-
P036	696-28-6	Arsonous dichloride, phenyl-
P054	151-56-4	Aziridine
P067	75-55-8	Aziridine, 2-methyl-
P013	542-62-1	Barium cyanide
P024	106-47-8	Benzenamine, 4-chloro-
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
P001	[1]81-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%
P028	100-44-7	Benzyl chloride
P015	7440-41-7	Beryllium
P017	598-31-2	Bromoacetone
P018	357-57-3	Brucine

P045	39196-18-4	2-Butanone, 3,3-dimethyl-1-(methylthio)-, ...O-[methylamino)carbonyl] oxime
P021	592-01-8	Calcium cyanide
P021	592-01-8	Calcium cyanide $Ca(CN)_2$
P022	75-15-0	Carbon disulfide
P095	75-44-5	Carbonic dichloride
P023	107-20-0	Chloroacetaldehyde
P024	106-47-8	p-Chloroaniline
P026	5344-82-1	1-(o-Chlorophenyl)thiourea
P027	542-76-7	3-Chloropropionitrile
P029	544-92-3	Copper cyanide
P029	544-92-3	Copper cyanide Cu(CN)
P030	.....	Cyanides (soluble cyanide salts), not otherwise specified
P031	460-19-5	Cyanogen
P033	506-77-4	Cyanogen chloride
P033	506-77-4	Cyanogen chloride (CN)Cl
P034	131-89-5	2-Cyclohexyl-4,6-dinitrophenol
P016	542-88-1	Dichloromethyl ether
P036	696-28-6	Dichlorophenylarsine
P037	60-57-1	Dieldrin
P038	692-42-2	Diethylarsine
P041	311-45-5	Diethyl-p-nitrophenyl phosphate
P040	297-97-2	O,O-Diethyl O-pyrazinyl phosphorothioate
P043	55-91-4	Diisopropylfluorophosphate (DFP)
P004	309-00-2	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa-chloro-1,4,4a,5,8,8a,-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)-
P060	465-73-6	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa-chloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5beta,8beta,8abeta)-
P037	60-57-1	2,7:3,6-Dimethanonaphth [2,3-b]oxirene,3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta, 7aalpha)-
P051	[1]72-20-8	2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta, 7aalpha)-, & metabolites
P044	60-51-5	Dimethoate
P046	122-09-8	alpha,alpha-Dimethylphenethylamine
P047	[1]534-52-1	4,6-Dinitro-o-cresol, & salts
P048	51-28-5	2,4-Dinitrophenol
P020	88-85-7	Dinoseb
P085	152-16-9	Diphosphoramide, octamethyl-
P111	107-49-3	Diphosphoric acid, tetraethyl ester
P039	298-04-4	Disulfoton
P049	541-53-7	Dithiobiuret
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
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
P065	628-86-4	Fulminic acid, mercury(2+) salt (R,T)
P059	76-44-8	Heptachlor

P062	757-58-4	Hexaethyl tetraphosphate
P116	79-19-6	Hydrazinecarbothioamide
P068	60-34-4	Hydrazine, methyl-
P063	74-90-8	Hydrocyanic acid
P063	74-90-8	Hydrogen cyanide
P096	7803-51-2	Hydrogen phosphide
P060	465-73-6	Isodrin
P007	2763-96-4	3(2H)-Isoxazolone, 5-(aminomethyl)-
P092	62-38-4	Mercury, (acetato-O)phenyl-
P065	628-86-4	Mercury fulminate (R,T)
P082	62-75-9	Methanamine, N-methyl-N-nitroso-
P064	624-83-9	Methane, isocyanato-
P016	542-88-1	Methane, oxybis[chloro-
P112	509-14-8	Methane, tetranitro-(R)
P118	75-70-7	Methanethiol, trichloro-
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-
P066	16752-77-5	Methomyl
P068	60-34-4	Methyl hydrazine
P064	624-83-9	Methyl isocyanate
P069	75-86-5	2-Methyllactonitrile
P071	298-00-0	Methyl parathion
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 cynaide $Ni(CN)_2$
P075	[1]54-11-5	Nicotine, & salts
P076	10102-43-9	Nitric oxide
P077	100-01-6	p-Nitroaniline
P078	10102-44-0	Nitrogen dioxide
P076	10102-43-9	Nitrogen oxide NO
P078	10102-44-0	Nitrogen oxide NO_2
P081	55-63-0	Nitroglycerine (R)
P082	62-75-9	N-Nitrosodimethylamine
P084	4549-40-0	N-Nitrosomethylvinylamine
P085	152-16-9	Octamethylpyrophosphoramide
P087	20816-12-0	Osmium oxide OsO_4, (T-4)-
P087	20816-12-0	Osmium tetroxide
P088	145-73-3	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P089	56-38-2	Parathion
P034	131-89-5	Phenol, 2-cyclohexyl-4,6-dinitro-
P048	51-28-5	Phenol, 2,4-dinitro-
P047	[1]534-52-1	Phenol, 2-methyl-4,6-dinitro-, & salts
P020	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-
P009	131-74-8	Phenol, 2,4,6-trinitro-, ammonium salt (R)
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-pyrazinylester
P097	52-85-7	Phosphorothioic acid,...O-[4-[(dimethylami-no)sulfonyl]phenyl] O,O-dimethyl ester
P071	298-00-0	Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl)ester
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
P070	116-06-3	Propanal, 2-methyl-2-(methylthio)-,...O-[(methylami-no)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	[1]54-11-5	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts
P114	12039-52-0	Selenious acid, dithallium(1+) salt
P103	630-10-4	Selenourea
P104	506-64-9	Silver cyanide
P104	506-64-9	Silver cyanide Ag(CN)
P105	26628-22-8	Sodium azide
P106	143-33-9	Sodium cyanide
P106	143-33-9	Sodium cyanide Na(CN)
P108	[1]57-24-9	Strychnidin-10-one, & salts
P018	357-57-3	Strychnidin-10-one, 2,3-dimethoxy-
P108	[1]57-24-9	Strychnine, & salts
P115	7446-18-6	Sulfuric acid, dithallium(1+) salt
P109	3689-24-5	Tetraethyldithiopyrophosphate
P110	78-00-2	Tetraethyl lead
P111	107-49-3	Tetraethyl pyrophosphate
P112	509-14-8	Tetranitromethane (R)
P062	757-58-4	Tetraphosphoric acid, hexaethyl ester
P113	1314-32-5	Thallic oxide
P113	1314-32-5	Thallium oxide Tl_2O_3
P114	12039-52-0	Thallium(I) selenite
P115	7446-18-6	Thallium(I) sulfate
P109	3689-24-5	Thiodiphosphoric acid, tetraethyl ester
P045	39196-18-4	Thiofanox
P049	541-53-7	Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$
P014	108-98-5	Thiophenol
P116	79-19-6	Thiosemicarbazide

P026	5344-82-1	Thiourea, (2-chlorophenyl)-
P072	86-88-4	Thiourea, 1-naphthalenyl-
P093	103-85-5	Thiourea, phenyl-
P123	8001-35-2	Toxaphene
P118	75-70-7	Trichloromethanethiol
P119	7803-55-6	Vanadic acid, ammonium salt
P120	1314-62-1	Vanadium oxide V_2O_5
P120	1314-62-1	Vanadium pentoxide
P084	4549-40-0	Vinylamine, N-methyl-N-nitroso-
P001	[1]81-81-2	Warfarin, & salts, when present at concentrations greater than 0.3%
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)

[1] CAS Number given for parent compound only.

D. Toxic wastes (U-code)

The following commercial chemical products, manufacturing chemical intermediates, or off-specification commercial chemical products are identified as toxic wastes (T). 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.

These wastes and their corresponding EPA Hazardous Waste Numbers are:

Hazardous Waste No.	Chemical abstracts No.	Substance	
U001	75-07-0	Acetaldehyde	(I)
U034	75-87-6	Acetaldehyde, trichloro-	
U187	62-44-2	Acetamide, N-(4-ethoxyphenyl)-	
U005	53-96-3	Acetamide, N-9H-fluoren-2-yl-	
U240	[1]94-75-7	Acetic acid, (2,4-dichlorophenoxy)-, salts & esters	
U112	141-78-6	Acetic acid ethyl ester	(I)
U144	301-04-2	Acetic acid, lead(2+) salt	
U214	563-68-8	Acetic acid, thallium(1+) salt	
see F027	93-76-5	Acetic acid, (2,4,5-trichlorophenoxy)-	
U002	67-64-1	Acetone	(I)
U003	75-05-8	Acetonitrile	(I,T)
U004	98-86-2	Acetophenone	
U005	53-96-3	2-Acetylaminofluorene	
U006	75-36-5	Acetyl chloride	(C,R,T)
U007	79-06-1	Acrylamide	
U008	79-10-7	Acrylic acid	(I)
U009	107-13-1	Acrylonitrile	
U011	61-82-5	Amitrole	
U012	62-53-3	Aniline	(I,T)
U136	75-60-5	Arsinic acid, dimethyl-	
U014	492-80-8	Auramine	
U015	115-02-6	Azaserine	
U010	50-07-7	Azirino[2',3':3,4]pyrrolo [1,2-a]indole-4,7-dione,6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-,	

		[1aS-(1aalpha, 8beta,8aalpha,8balpha)]-	
U157	56-49-5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-	
U016	225-51-4	Benz[c]acridine	
U017	98-87-3	Benzal chloride	
U192	23950-58-5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-	
U018	56-55-3	Benz[a]anthracene	
U094	57-97-6	Benz[a]anthracene, 7,12-dimethyl-	
U012	62-53-3	Benzenamine	(I,T)
U014	492-80-8	Benzenamine, 4,4'-carbonimidoylbis [N,N-dimethyl-	
U049	3165-93-3	Benzenamine, 4-chloro-2-methyl-, hydrochloride	
U093	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-	
U328	95-53-4	Benzenamine, 2-methyl-	
U353	106-49-0	Benzenamine, 4-methyl-	
U158	101-14-4	Benzenamine, 4,4'-methylenebis[2-chloro-	
U222	636-21-5	Benzenamine, 2-methyl-, hydrochloride	
U181	99-55-8	Benzenamine, 2-methyl-5-nitro-	
U019	71-43-2	Benzene	(I,T)
U038	510-15-6	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester	
U030	101-55-3	Benzene, 1-bromo-4-phenoxy-	
U035	305-03-3	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-	
U037	108-90-7	Benzene, chloro-	
U221	25376-45-8	Benzenediamine, ar-methyl-	
U028	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	
U069	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester	
U088	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester	
U102	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester	
U107	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester	
U070	95-50-1	Benzene, 1,2-dichloro-	
U071	541-73-1	Benzene, 1,3-dichloro-	
U072	106-46-7	Benzene, 1,4-dichloro-	
U060	72-54-8	Benzene, 1,1'-(2,2-dichloroethylidene)bis [4-chloro-	
U017	98-87-3	Benzene, (dichloromethyl)-	
U223	26471-62-5	Benzene, 1,3-diisocyanatomethyl-	(R,T)
U239	1330-20-7	Benzene, dimethyl-	(I,T)
U201	108-46-3	1,3-Benzenediol	
U127	118-74-1	Benzene, hexachloro-	
U056	110-82-7	Benzene, hexahydro-	(I)
U220	108-88-3	Benzene, methyl-	
U105	121-14-2	Benzene, 1-methyl-2,4-dinitro-	
U106	606-20-2	Benzene, 2-methyl-1,3-dinitro-	
U055	98-82-8	Benzene, (1-methylethyl)-	(I)
U169	98-95-3	Benzene, nitro-	
U183	608-93-5	Benzene, pentachloro-	
U185	82-68-8	Benzene, pentachloronitro-	
U020	98-09-9	Benzenesulfonic acid chloride	(C,R)
U020	98-09-9	Benzenesulfonyl chloride	(C,R)
U207	95-94-3	Benzene, 1,2,4,5-tetrachloro-	
U061	50-29-3	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis [4-chloro-	
U247	72-43-5	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis [4-methoxy-	
U023	98-07-7	Benzene, (trichloromethyl)-	
U234	99-35-4	Benzene, 1,3,5-trinitro-	
U021	92-87-5	Benzidine	
U202	[1]81-07-2	1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts	
U203	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-	
U141	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-	
U090	94-58-6	1,3-Benzodioxole, 5-propyl-	

U064	189-55-9	Benzo[rst]pentaphene	
U248	[1]81-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, & salts, when present at concentrations of 0.3% or less	
U022	50-32-8	Benzo[a]pyrene	
U197	106-51-4	p-Benzoquinone	
U023	98-07-7	Benzotrichloride	(C,R,T)
U085	1464-53-5	2,2'-Bioxirane	
U021	92-87-5	[1,1'-Biphenyl]-4,4'-diamine	
U073	91-94-1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-	
U091	119-90-4	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-	
U095	119-93-7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-	
U225	75-25-2	Bromoform	
U030	101-55-3	4-Bromophenyl phenyl ether	
U128	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	
U172	924-16-3	1-Butanamine, N-butyl-N-nitroso-	
U031	71-36-3	1-Butanol	(I)
U159	78-93-3	2-Butanone	(I,T)
U160	1338-23-4	2-Butanone, peroxide	(R,T)
U053	4170-30-3	2-Butenal	
U074	764-41-0	2-Butene, 1,4-dichloro-	(I,T)
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-ylester, ...[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	
U238	51-79-6	Carbamic acid, ethyl ester	
U178	615-53-2	Carbamic acid, methylnitroso-, ethyl ester	
U097	79-44-7	Carbamic chloride, dimethyl-	
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	
U215	6533-73-9	Carbonic acid, dithallium(1+) salt	
U033	353-50-4	Carbonic difluoride	
U156	79-22-1	Carbonochloridic acid, methyl ester	(I,T)
U033	353-50-4	Carbon oxyfluoride	(R,T)
U211	56-23-5	Carbon tetrachloride	
U034	75-87-6	Chloral	
U035	305-03-3	Chlorambucil	
U036	57-74-9	Chlordane, alpha & gamma isomers	
U026	494-03-1	Chlornaphazin	
U037	108-90-7	Chlorobenzene	
U038	510-15-6	Chlorobenzilate	
U039	59-50-7	p-Chloro-m-cresol	
U042	110-75-8	2-Chloroethyl vinyl ether	
U044	67-66-3	Chloroform	
U046	107-30-2	Chloromethyl methyl ether	
U047	91-58-7	beta-Chloronaphthalene	
U048	95-57-8	o-Chlorophenol	
U049	3165-93-3	4-Chloro-o-toluidine, hydrochloride	
U032	13765-19-0	Chromic acid H_2CrO_4, calcium salt	
U050	218-01-9	Chrysene	
U051	.....	Creosote	
U052	1319-77-3	Cresol (Cresylic acid)	
U053	4170-30-3	Crotonaldehyde	
U055	98-82-8	Cumene	(I)
U246	506-68-3	Cyanogen bromide (CN)Br	

U197	106-51-4	2,5-Cyclohexadiene-1,4-dione	
U056	110-82-7	Cyclohexane	(I)
U129	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexachloro-,...(1alpha,2alpha,3beta,4alpha,5alpha,6beta)-	
U057	108-94-1	Cyclohexanone	(I)
U130	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	
U058	50-18-0	Cyclophosphamide	
U240	[1]94-75-7	2,4-D, salts & esters	
U059	20830-81-3	Daunomycin	
U060	72-54-8	DDD	
U061	50-29-3	DDT	
U062	2303-16-4	Diallate	
U063	53-70-3	Dibenz[a,h]anthracene	
U064	189-55-9	Dibenzo[a,i]pyrene	
U066	96-12-8	1,2-Dibromo-3-chloropropane	
U069	84-74-2	Dibutyl phthalate	
U070	95-50-1	o-Dichlorobenzene	
U071	541-73-1	m-Dichlorobenzene	
U072	106-46-7	p-Dichlorobenzene	
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	
U086	1615-80-1	N,N'-Diethylhydrazine	
U087	3288-58-2	O,O-Diethyl S-methyl dithiophosphate	
U088	84-66-2	Diethyl phthalate	
U089	56-53-1	Diethylstilbesterol	
U090	94-58-6	Dihydrosafrole	
U091	119-90-4	3,3'-Dimethoxybenzidine	
U092	124-40-3	Dimethylamine	(I)
U093	60-11-7	p-Dimethylaminoazobenzene	
U094	57-97-6	7,12-Dimethylbenz[a]anthracene	
U095	119-93-7	3,3'-Dimethylbenzidine	
U096	80-15-9	alpha,alpha-Dimethylbenzylhydroperoxide	(R)
U097	79-44-7	Dimethylcarbamoyl chloride	
U098	57-14-7	1,1-Dimethylhydrazine	
U099	540-73-8	1,2-Dimethylhydrazine	
U101	105-67-9	2,4-Dimethylphenol	
U102	131-11-3	Dimethyl phthalate	
U103	77-78-1	Dimethyl sulfate	
U105	121-14-2	2,4-Dinitrotoluene	
U106	606-20-2	2,6-Dinitrotoluene	
U107	117-84-0	Di-n-octyl phthalate	
U108	123-91-1	1,4-Dioxane	
U109	122-66-7	1,2-Diphenylhydrazine	
U110	142-84-7	Dipropylamine	(I)
U111	621-64-7	Di-n-propylnitrosamine	

U041	106-89-8	Epichlorohydrin	
U001	75-07-0	Ethanal	(I)
U174	55-18-5	Ethanamine, N-ethyl-N-nitroso-	
U155	91-80-5	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-	
U067	106-93-4	Ethane, 1,2-dibromo-	
U076	75-34-3	Ethane, 1,1-dichloro-	
U077	107-06-2	Ethane, 1,2-dichloro-	
U131	67-72-1	Ethane, hexachloro-	
U024	111-91-1	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-	
U117	60-29-7	Ethane, 1,1'-oxybis-	(I)
U025	111-44-4	Ethane, 1,1'-oxybis[2-chloro-	
U184	76-01-7	Ethane, pentachloro-	
U208	630-20-6	Ethane, 1,1,1,2-tetrachloro-	
U209	79-34-5	Ethane, 1,1,2,2-tetrachloro-	
U218	62-55-5	Ethanethioamide	
U226	71-55-6	Ethane, 1,1,1-trichloro-	
U227	79-00-5	Ethane, 1,1,2-trichloro-	
U359	110-80-5	Ethanol, 2-ethoxy-	
U173	1116-54-7	Ethanol, 2,2'-(nitrosoimino)bis-	
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	
U118	97-63-2	Ethyl methacrylate	
U119	62-50-0	Ethyl methanesulfonate	
U120	206-44-0	Fluoranthene	
U122	50-00-0	Formaldehyde	
U123	64-18-6	Formic acid	(C,T)
U124	110-00-9	Furan	(I)
U125	98-01-1	2-Furancarboxaldehyde	(I)
U147	108-31-6	2,5-Furandione	
U213	109-99-9	Furan, tetrahydro-	(I)
U125	98-01-1	Furfural	(I)
U124	110-00-9	Furfuran	(I)
U206	18883-66-4	Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-,D-	
U206	18883-66-4	D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)-...carbonyl]amino]-	
U126	765-34-4	Glycidylaldehyde	
U163	70-25-7	Guanidine, N-methyl-N'-nitro-N-nitroso-	
U127	118-74-1	Hexachlorobenzene	
U128	87-68-3	Hexachlorobutadiene	
U130	77-47-4	Hexachlorocyclopentadiene	
U131	67-72-1	Hexachloroethane	

U132	70-30-4	Hexachlorophene	
U243	1888-71-7	Hexachloropropene	
U133	302-01-2	Hydrazine (R,T)	
U086	1615-80-1	Hydrazine, 1,2-diethyl-	
U098	57-14-7	Hydrazine, 1,1-dimethyl-	
U099	540-73-8	Hydrazine, 1,2-dimethyl-	
U109	122-66-7	Hydrazine, 1,2-diphenyl-	
U134	7664-39-3	Hydrofluoric acid	(C,T)
U134	7664-39-3	Hydrogen fluoride	(C,T)
U135	7783-06-4	Hydrogen sulfide	
U135	7783-06-4	Hydrogen sulfide H_2S	
U096	80-15-9	Hydroperoxide, 1-methyl-1-phenylethyl-	(R)
U116	96-45-7	2-Imidazolidinethione	
U137	193-39-5	Indeno[1,2,3-cd]pyrene	
U190	85-44-9	1,3-Isobenzofurandione	
U140	78-83-1	Isobutyl alcohol	(I,T)
U141	120-58-1	Isosafrole	
U142	143-50-0	Kepone	
U143	303-34-4	Lasiocarpine	
U144	301-04-2	Lead acetate	
U146	1335-32-6	Lead, bis(acetato-O)tetrahydroxytri-	
U145	7446-27-7	Lead phosphate	
U146	1335-32-6	Lead subacetate	
U129	58-89-9	Lindane	
U163	70-25-7	MNNG	
U147	108-31-6	Maleic anhydride	
U148	123-33-1	Maleic hydrazide	
U149	109-77-3	Malononitrile	
U150	148-82-3	Melphalan	
U151	7439-97-6	Mercury	
U152	126-98-7	Methacrylonitrile	(I,T)
U092	124-40-3	Methanamine, N-methyl-	(I)
U029	74-83-9	Methane, bromo-	
U045	74-87-3	Methane, chloro-	(I,T)
U046	107-30-2	Methane, chloromethoxy-	
U068	74-95-3	Methane, dibromo-	
U080	75-09-2	Methane, dichloro-	
U075	75-71-8	Methane, dichlorodifluoro-	
U138	74-88-4	Methane, iodo-	
U119	62-50-0	Methanesulfonic acid, ethyl ester	
U211	56-23-5	Methane, tetrachloro-	
U153	74-93-1	Methanethiol	(I,T)
U225	75-25-2	Methane, tribromo-	
U044	67-66-3	Methane, trichloro-	
U121	75-69-4	Methane, trichlorofluoro-	
U036	57-74-9	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-	
U154	67-56-1	Methanol	(I)
U155	91-80-5	Methapyrilene	
U142	143-50-0	1,3,4-Metheno-2H-cyclobuta [cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-	
U247	72-43-5	Methoxychlor	
U154	67-56-1	Methyl alcohol	(I)
U029	74-83-9	Methyl bromide	
U186	504-60-9	1-Methylbutadiene	(I)
U045	74-87-3	Methyl chloride	(I,T)
U156	79-22-1	Methyl chlorocarbonate	(I,T)

U226	71-55-6	Methyl chloroform	
U157	56-49-5	3-Methylcholanthrene	
U158	101-14-4	4,4'-Methylenebis(2-chloroaniline)	
U068	74-95-3	Methylene bromide	
U080	75-09-2	Methylene chloride	
U159	78-93-3	Methyl ethyl ketone (MEK)	(I,T)
U160	1338-23-4	Methyl ethyl ketone peroxide	(R,T)
U138	74-88-4	Methyl iodide	
U161	108-10-1	Methyl isobutyl ketone	(I)
U162	80-62-6	Methyl methacrylate	(I,T)
U161	108-10-1	4-Methyl-2-pentanone	(I)
U164	56-04-2	Methylthiouracil	
U010	50-07-7	Mitomycin C	
U059	20830-81-3	5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6 ,8,11-trihydroxy-1-methoxy-, 8S-cis)-	
U167	134-32-7	1-Naphthalenamine	
U168	91-59-8	2-Naphthalenamine	
U026	494-03-1	Naphthalenamine, N,N'-bis(2-chloroethyl)-	
U165	91-20-3	Naphthalene	
U047	91-58-7	Naphthalene, 2-chloro-	
U166	130-15-4	1,4-Naphthalenedione	
U236	72-57-1	2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-...dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(azo)bis [5-amino-4-hydroxy]-, tetrasodium salt	
U166	130-15-4	1,4-Naphthoquinone	
U167	134-32-7	alpha-Naphthylamine	
U168	91-59-8	beta-Naphthylamine	
U217	10102-45-1	Nitric acid, thallium(1+) salt	
U169	98-95-3	Nitrobenzene	(I,T)
U170	100-02-7	p-Nitrophenol	
U171	79-46-9	2-Nitropropane	(I,T)
U172	924-16-3	N-Nitrosodi-n-butylamine	
U173	1116-54-7	N-Nitrosodiethanolamine	
U174	55-18-5	N-Nitrosodiethylamine	
U176	759-73-9	N-Nitroso-N-ethylurea	
U177	684-93-5	N-Nitroso-N-methylurea	
U178	615-53-2	N-Nitroso-N-methylurethane	
U179	100-75-4	N-Nitrosopiperidine	
U180	930-55-2	N-Nitrosopyrrolidine	
U181	99-55-8	5-Nitro-o-toluidine	
U193	1120-71-4	1,2-Oxathiolane, 2,2-dioxide	
U058	50-18-0	2H-1,3,2-Oxazaphosphorin-2-amine,...N,N-bis(2-chloroethyl)te trahydro-, 2-oxide	
U115	75-21-8	Oxirane	(I,T)
U126	765-34-4	Oxiranecarboxyaldehyde	
U041	106-89-8	Oxirane, (chloromethyl)-	
U182	123-63-7	Paraldehyde	
U183	608-93-5	Pentachlorobenzene	
U184	76-01-7	Pentachloroethane	
U185	82-68-8	Pentachloronitrobenzene (PCNB)	
See F027	87-86-5	Pentachlorophenol	
U161	108-10-1	Pentanol, 4-methyl-	
U186	504-60-9	1,3-Pentadiene	(I)
U187	62-44-2	Phenacetin	
U188	108-95-2	Phenol	
U048	95-57-8	Phenol, 2-chloro-	

U039	59-50-7	Phenol, 4-chloro-3-methyl-	
U081	120-83-2	Phenol, 2,4-dichloro-	
U082	87-65-0	Phenol, 2,6-dichloro-	
U089	56-53-1	Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-	
U101	105-67-9	Phenol, 2,4-dimethyl-	
U052	1319-77-3	Phenol, methyl-	
U132	70-30-4	Phenol, 2,2'-methylenebis[3,4,6-trichloro-	
U170	100-02-7	Phenol, 4-nitro-	
See F027	87-86-5	Phenol, pentachloro-	
See F027	58-90-2	Phenol, 2,3,4,6-tetrachloro-	
See F027	95-95-4	Phenol, 2,4,5-trichloro-	
See F027	88-06-2	Phenol, 2,4,6-trichloro-	
U150	148-82-3	L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-	
U145	7446-27-7	Phosphoric acid, lead(2+) salt (2:3)	
U087	3288-58-2	Phosphorodithioic acid, O,O-diethyl S-methyl ester	
U189	1314-80-3	Phosphorus sulfide	(R)
U190	85-44-9	Phthalic anhydride	
U191	109-06-8	2-Picoline	
U179	100-75-4	Piperidine, 1-nitroso-	
U192	23950-58-5	Pronamide	
U194	107-10-8	1-Propanamine	(I,T)
U111	621-64-7	1-Propanamine, N-nitroso-N-propyl-	
U110	142-84-7	1-Propanamine, N-propyl-	(I)
U066	96-12-8	Propane, 1,2-dibromo-3-chloro-	
U083	78-87-5	Propane, 1,2-dichloro-	
U149	109-77-3	Propanedinitrile	
U171	79-46-9	Propane, 2-nitro-	(I,T)
U027	108-60-1	Propane, 2,2'-oxybis[2-chloro-	
U193	1120-71-4	1,3-Propane sultone	
See F027	93-72-1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-	
U235	126-72-7	1-Propanol, 2,3-dibromo-, phosphate (3:1)	
U140	78-83-1	1-Propanol, 2-methyl-	(I,T)
U002	67-64-1	2-Propanone	(I)
U007	79-06-1	2-Propenamide	
U084	542-75-6	1-Propene, 1,3-dichloro-	
U243	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-	
U009	107-13-1	2-Propenenitrile	
U152	126-98-7	2-Propenenitrile, 2-methyl-	(I,T)
U008	79-10-7	2-Propenoic acid	(I)
U113	140-88-5	2-Propenoic acid, ethyl ester	(I)
U118	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester	
U162	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester	(I,T)
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	[1]81-07-2	Saccharin, & salts	
U203	94-59-7	Safrole	
U204	7783-00-8	Selenious acid	
U204	7783-00-8	Selenium dioxide	

U205	7488-56-4	Selenium sulfide	
U205	7488-56-4	Selenium sulfide SeS2	(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	
U153	74-93-1	Thiomethanol	(I,T)
U244	137-26-8	Thioperoxydicarbonic diamide $[H_2N)C(S)]_2S_2$, tetramethyl-	
U219	62-56-6	Thiourea	
U244	137-26-8	Thiram	
U220	108-88-3	Toluene	
U221	25376-45-8	Toluenediamine	
U223	26471-62-5	Toluene diisocyanate	(R,T)
U328	95-53-4	o-Toluidine	
U353	106-49-0	p-Toluidine	
U222	636-21-5	o-Toluidine hydrochloride	
U011	61-82-5	1H-1,2,4-Triazol-3-amine	
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	
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, concentrations of 0.3% or less	
U239	1330-20-7	Xylene	(I)
U200	50-55-5	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha,18beta,20alpha)-	
U249	1314-84-7	Zinc phosphide Zn3P2, concentrations of 10% or less	

[1]CAS Number given for parent compound only