

WASTE MANAGEMENT GUIDE

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Environmental Health and Safety Office Ball State University

HAZARDOUS WASTE MANAGEMENT GUIDE

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HAZARDOUS WASTE MANAGEMENT GUIDE

I. OVERVIEW

The framework for hazardous waste regulation was established in 1976 by the Federal Resource Conservation and Recovery Act (RCRA). RCRA was enacted by Congress to protect human health and the environment from improper management of hazardous waste. RCRA introduced the concept that the generator of a waste is responsible for proper waste management from "cradle-to-grave" (i.e. from the shop or laboratory to the waste's ultimate destruction). RCRA regulations may be found in 40 CFR Parts 260-279.

At Ball State University, all chemical waste disposal is managed by the Environmental Health and Safety (EHS) Office of Facilities Planning and Management. Hazardous chemicals are not allowed to be disposed of in the drains (without EHS and Muncie Sanitary District approval), in the trash, or by evaporation. All chemical waste is required to be held in the generating location (this location is defined as a "Satellite Accumulation Area") for subsequent pick-up and disposal by EHS and an approved waste disposal vendor. Some wastes may be relocated by EHS staff to one of two hazardous waste accumulation areas maintained by the University for secure storage pending removal by the approved waste disposal vendor.

There are specific regulatory requirements for the individuals, laboratories, or shops, that generate and accumulate chemical waste. These individuals must properly identify and label all hazardous wastes in their workplace. They must properly store and submit requests to the EHS for disposal of chemical wastes. Finally, they must minimize the amount of waste generated and recycle whenever possible. The purpose of this document is to assist labs, shops, and the various academic Departments with this regulatory compliance. Every lab and shop on campus is subject to unannounced inspections by both the Federal Environmental Protection Agency (EPA) and the Indiana Department of Environmental Management (IDEM). Lack of compliance can result in a Notice of Violation and, potentially, fines or other penalties.

The University does not maintain a permitted hazardous waste storage facility on the BSU Campus and it is therefore necessary for the Departments generating the wastes and the EHS Office to accumulate them in accordance with the EPA/IDEM waste regulations - pending pickup for transport and off-site disposal by the BSU EHS Office.

The EHS Office will assist in any way possible with the identification and handling of wastes, including hazardous wastes, by the various Departments, laboratories, or other waste generators on the Ball State campus. The regulatory requirements covered in this document include:

- Identification (waste determination) of hazardous wastes;
- Handling of hazardous materials;
- Labeling of hazardous waste containers; and,
- Accumulation of hazardous wastes

II. IDENTIFYING A HAZARDOUS WASTE

The requirements described in this guide do not apply until a material becomes a waste. From a regulatory perspective, a waste is something that is spent, has no further use, or no intended use, and a decision is made that it is to be discarded. A determination must be made for every waste generated at Ball State University as to whether or not the waste should must be handled as a hazardous waste. A waste is determined to be a "hazardous waste" by one of three means:

- 1. It is on one of the EPA's lists of hazardous chemicals
- 2. It meets the definition of at least one of the EPA-defined characteristics of toxicity, ignitability, reactivity, or corrosiveness.
- 3. The waste's generator, utilizing some outside source of information (MSDS, manufacturer's website, etc.) determines that the waste should be treated as hazardous.

The waste determination is an important requirement under the hazardous waste rules, but may be based on generator knowledge of the wastes generated, by testing of the waste, or by both methods. Failure to make a "waste determination", or to incorrectly classify a waste, is itself a violation under these regulations.

Waste: A material/chemical that has no intended use or reuse, or for which a decision has been made to discard it, including chemicals and materials from a spill clean-up, or unused commercial chemical products.

Hazardous Waste: A waste that is EPA listed, possesses one of the EPA's hazardous characteristics, or is determined to be hazardous by review of the material's MSDS or other sources.

It should be stressed that not all chemical wastes constitute hazardous wastes, and should not therefore be identified as such. Wastes determined to be hazardous wastes are subject to more intensive regulatory oversight governing their identification, accumulation, handling, storage, transportation, and available means of disposal or recycling. While chemical wastes that are not hazardous wastes are not subject to such intensive oversight, it is still necessary to handle them carefully and ensure they are disposed of properly. Many wastes that do not meet the criteria to be a hazardous waste may still have hazardous characteristics and require similar handling precautions. Non-hazardous wastes are picked up by the EHS at the same frequency as hazardous wastes and, often, from the same locations.

A. Listed Hazardous Wastes

A hazardous waste can be classified, or listed, as either a process waste or a discarded commercial chemical product. This distinction is important when manifesting and labeling wastes.

1. Process wastes

A process waste is any waste that, by virtue of some use, process or procedure, no longer meets the manufacturer's original product specifications. Examples of process wastes are chromatography effluents, spent solvents, electroplating wastes, diluted chemicals, reaction mixtures, contaminated paper, etc. These are referred to as "F" and "K" wastes under the EPA regulations and they are specifically listed by the industrial process or use through which they are generated.

2. Discarded commercial chemical products

A discarded commercial chemical product is the original (virgin) material. Examples are containers of unused or outdated chemicals from laboratories, darkrooms, or service areas. These are referred to as "P" and "U" wastes under the hazardous waste regulations.

Appendix B to this Guidance is a composite of approximately 850 chemicals that are recognized by the EPA and BSU EHS as possible constituents of hazardous wastes.

Acutely toxic hazardous wastes, also called "P-listed" wastes, comprise a portion of appendix B. Any container that once held a P-listed waste must be triple rinsed before the container can be discarded. The rinsate cannot be put down the sink. An alternative would be to have EHS handle the unrinsed empty containers along with other chemical wastes.

B. EPA Characteristic Hazardous Wastes

Rather than being directly identified as comprising a hazardous waste by virtue of being on the F, K, P, or U lists, a waste is a hazardous waste if it exhibits any one of the four characteristics of a hazardous waste. The following are the four characteristics and a few examples of common wastes at the University:

1. Ignitable

- a) Flammable Liquids- Flashpoint <140 F Examples: *Alcohols, Benzene, Toluene, Xylene, Acetonitrile*
- b) Oxidizers

Examples: Nitrates, Perchlorates, Bromates, Permanganates, Peroxides, Periodates

- c) Organic Peroxides
 - Examples: Benzoyl Peroxide, Cumene Hydroperoxide, Methyl Ethyl Ketone Peroxide
- **2. Corrosive** Aqueous liquids with a pH of ≤ 2 or ≥ 12.5
 - a) Inorganic Acids

Examples: Hydrochloric Acid, Sulfuric Acid, Nitric Acid, Phosphoric Acid

b) Organic Acids

Examples: Formic Acid, Lactic Acid, Acetic Acid

c) Bases

Examples: Hydroxide solutions, Amines

- **3. Reactive** materials which can react violently with water, create toxic and /or flammable gases when mixed with water, ignite or react upon exposure to air, or are capable of detonation at standard temperature and pressure.
 - a) Sulfides and Cyanides
 - b) Peroxide formers
 - c) Alkali metals Sodium, Potassium, Lithium
 - d) Dinitro and Trinitro compounds Picric Acid
 - e) Carbonyl compounds
 - f) Isocyanates
 - g) Perchlorate crystal formers Perchloric Acid
- **4. Toxic** A selected group of eight (8) heavy metals, ten (10) pesticides, and twenty-two (22) organic chemicals are classified as hazardous due to their toxicity characteristic. These materials constitute a hazardous waste if an extract (leachable constituents) of the waste exceeds the quantitative threshold for that constituent. For example, lead-based paint normally fails the TCLP test for lead. The complete list is located in Appendix 'A'.

If you are ever unsure of a waste's characteristics, contact the BSU Environmental Specialist so that a waste determination can be made.

III. ACCUMULATION REQUIREMENTS

It is the responsibility of the Laboratory Manager, Safety Officer, or their designee to ensure that waste storage areas are maintained in accordance with applicable rules and regulations. Waste is to be accumulated only in areas classified as "satellite accumulation areas." A Hazardous Waste Satellite Accumulation Area Requirements sheet (Appendix C) must be posted close to the accumulated waste. The laboratory or shop must ensure that everyone in the lab has read and is familiar with the Hazardous Waste Satellite Accumulation Area Requirements sheet and this Hazardous Waste Management Guide. Once this familiarization training is accomplished, it must be documented by the individual's signature in Appendix 'E' of this Guide (or the BSU CHP Training and Awareness Certification), and this sheet must be maintained in the laboratory to be provided upon request by the EHS Office or an EPA/IDEM inspector.

Hazardous waste at a satellite accumulation area can be accumulated as long as necessary, but the total quantity of all wastes at one Satellite Area can never exceed 55 gallons. Additionally, no more than 1 quart or 1 kilogram of an acutely hazardous waste (P-Listed Waste) may be accumulated at one time. Empty containers that once contained a P-listed waste must be triple rinsed prior to disposal, and the rinsate must be handled as a hazardous waste. P-listed wastes are identified in Appendix 'B' with bold print and an asterisk.

All waste containers must have at least one (1) inch of headspace to allow for expansion. The exterior of the container must be free of chemical contamination. Leaking or overfilled containers must be repackaged before they will be transported by EHS.

A Hazardous Waste label must be affixed to a container before any hazardous waste is put into the container. Refer to section IV for additional labeling requirements.

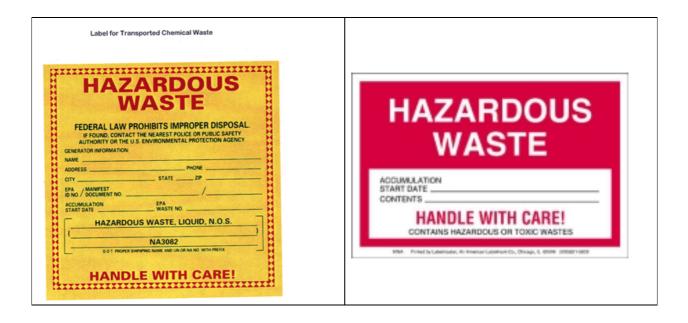
Incompatible chemicals must not to be placed in the same container. The BSU CHP provides a list of many incompatible chemicals. When placing a chemical into the waste container, consider venting to prevent over-pressurization resulting from any abnormal reactions.

A spill kit must be accessible to all lab personnel. The spill absorbent or neutralizer must be appropriate for the spilled chemical.

Do not hold unneeded chemicals or waste. Dispose of these promptly to ensure regulatory compliance and to maintain a safe workplace.

IV. LABELING REQUIREMENTS

All hazardous waste containers must be labeled correctly. Below are examples of Hazardous Waste Labels that must be affixed to each hazardous waste container:



Directions for Labeling

- 1. The *Hazardous Waste* label must be placed on the container BEFORE any waste is put into the container, or at such time that it is determined that the container is holding a waste to be discarded that meets the criteria for a hazardous waste.
- 2. Abbreviations and formulas are not permitted.
- 3. Computer generated labels are acceptable as long as they say "Hazardous Waste" at the top and meet the requirements of items 2 & 3. Another option is to tape the computer generated label onto one of the yellow hazardous waste labels.
- 4. Ensure that the laboratory (waste generator), building, and room number are included on

V. SPECIFIC WASTE MANAGEMENT PRACTICES

Certain wastes generated at the University may or may not be hazardous wastes, but have special handling ,labeling, management, or disposal requirements. Examples are:

- **A.** Unknowns Special effort should be exercised to prevent the generation of unknown wastes, since characterization of unknown wastes significantly increases the cost for of disposal. To have unknowns picked up, place a *Hazardous Waste label* on the container with the word "Unknown" in the constituents column.
- **B. Pharmaceutical Waste** There are many chemical and/or pharmaceutical compounds that are used in research or in the treatment of diseases that are also considered hazardous wastes by the EPA when disposed of. Call EHS or refer to the Pharmaceutical Waste guide on the EHS web site for further guidance.
- C. Gas Cylinders generators should attempt to establish accounts with suppliers who will allow the return of unused product and empty cylinders. If possible, the entire contents of the cylinder should be used up. Generators must ensure that aging cylinders are picked up by EHS before the integrity of the valve and cylinder is compromised. The department may be billed directly for cylinders that require special handling and disposal procedures such as unknown or old cylinders.
- **D. Peroxide Formers** These compounds must be picked up by EHS within six (6) months after date of opening or one (1) year after date of receipt. Common peroxide formers are ethyl ether, ethylene glycol dimethyl ether (glyme), vinyl ethers, isopropyl ether, potassium metal, and sodium amide.
- **E. Dinitro and trinitro compounds** These compounds must be picked up by EHS before the contents have dried. These crystals can become shock sensitive when the moisture content is less than 10%. Picric acid is a common example of this type of compound.
- **F. Ethidium bromide** Concentrated stock solutions must be handled by EHS as a hazardous laboratory waste. The rinsate and destained gels can be placed down the sink and into the trash. EHS will provide a 5 gallon bucket for stained gels to be handled as a hazardous laboratory waste. Researchers concerned about discarding gels or solutions with lower or questionable amounts can have them handled as a hazardous laboratory waste. If a lab chooses to decontaminate their ethidium bromide, the filter and/or resin beads must be handled by EHS.
- **G. Common-Named Reagents** The following reagents contain mercury and should be handled as hazardous waste:

Dobbin's Reagent	Nessler's Reagent	Sachsse's Solution
Millon's Reagent	Hubb's Reagent	Knapp's solution
Hayem's Solution	Rohrback's Solution	Speigler's Reagent
Morrell's Solution	Tyrosine Reagents	Tanret's Reagent
Hopkins-Cole Reagent	Jacquemart;s Reagent	Meyer's Solution

Other hazardous reagents include: Flemming's Solution (osmium, chromic acid), Folin-Dennis

Solution (mercuric cyanide), Fisher's Reagent (phenyl hydrazine), and Erlicki's Solution (chromium).

- **H.Photochemicals** EHS recommends that labs which use large quantities of photochemicals have a silver recovery unit installed. This unit treats the spent fixer so that it may be discharged down the drain. If a silver recovery unit is not used, EHS must handle the spent fixer. The developer and stop bath must be combined in a container to neutralize the solutions before being put down the sink. No concentrated photochemicals of any kind can be placed in the trash or sink. A "Safety and Disposal Procedures for Photographic Materials" pamphlet is available from EHS.
- I. Used Oil Used oil includes all vacuum pump oil, synthetic oil, transmission and brake fluids, lubricating greases, etc. Used oil must be stored in securely closed containers provided with secondary containment. The secondary containment must have the capacity to hold 110 % of the volume of the largest container within the containment area. Each used oil container must be labeled clearly with the words "Used Oil". Used oil labels are available at no cost from the EHS Office.
- **J. Spilled Materials** the spilled chemical and the absorbent must be packaged and handled as hazardous waste. The *Hazardous Waste* label must name the chemical(s) and the absorbent used. See section IX of this document for more details on spills.

Universal Wastes

Universal Wastes are EPA regulated wastes, but are not Hazardous Wastes if properly recycled. They include spent batteries, certain types of lamps and mercury containing devices or equipment. All universal waste containers must be labeled clearly with the appropriate label when waste is first added. Universal Waste labels are available at no cost from the EHS Office.

- **K.** Batteries Alkaline batteries can be disposed of in the trash. Large storage batteries and other batteries which contain hazardous metals such as mercury, lithium, lead, silver and cadmium must be handled by the BSU EHS Office. All used batteries must be clearly lableled using one of the following phrases: "Universal Waste—Battery(ies)," or "Waste Battery(ies)," or "Used Battery(ies)." The electric terminals of the batteries must also be taped or the batteries placed in individual bags or containers to prevent "short-circuiting" and potential fires during storage or transport.
- L. Light bulbs fluorescent and high-intensity discharge (HID) bulbs must be handled as Universal Waste. Other specialty bulbs which may contain mercury must be handled by EHS as well (examples of this type of bulb would be germicidal bulbs or horticultural "grow" lights). For collection of spent lamps, please submit a chemical waste pick-up request form on-line. Departments which accumulate large quantities of bulbs must deliver them to Central Stores. All spent lamps must be labled clearly using one of the following phrases: "Universal Waste—Lamp(s)," or "Waste Lamp(s)," or "Used Lamp(s)".
- M. Mercury Containing Equipment There are many types of equipment that contain elemental mercury. Before disposing of any of these types of equipment, you should verify that they do not contain mercury. All used mercury containing equipment must be labeled clearly as "Universal Waste—Mercury Containing Equipment," "Waste Mercury-Containing Equipment," or "Used Mercury-Containing Equipment."

Examples include:

- Heating and air conditioning thermostats
- Tilt switches used in silent light switches, washing machine lids, chest type freezers
- Pressure gauges, displacement/plunger relays
- Sump pump float switches
- Thermometers, manometers, barometers

VI. CHEMICAL WASTE PICK-UP PROCEDURES

- A. In order to have hazardous waste picked-up from your accumulation area, you should contact the BSU Environmental Specialist prior to one of the scheduled quarterly waste pickups. Most Departments are notified approximately one (1) month in advance of the waste pickups and requested to identify the wastes to be picked up, the quantities, and their location.
- B. Provide as much information about the contents of each container as possible. As a minimum, the chemicals' names, the number of containers, and the total volume should be listed.
- C. Direct EHS personnel to the satellite accumulation area when they arrive to pick up the waste.

VII. SPILL RESPONSE AND CLEAN-UP PROCEDURES

If there is an immediate danger to health, life, property, or risk of an environmental release, evacuate the area and contact EHS and emergency personnel immediately. Contact emergency authorities and response at (28)5-1111 or 911. Contact EHS at (28)5-2807. All spills occurring after normal working hours should be reported to the University Police Department (UPD) at (28)5-1111. A UPD representative will contact EHS if necessary.

Each laboratory should have a spill kit. In the event of a spill which does not meet the above criteria; stop the spill, contain the spill, notify other's in the area, and clean up immediately. All flames should be extinguished and spark-producing equipment turned off. All non-essential personnel should be evacuated.

After cleaning up the spill, place the chemical and absorbents in a container with a *Hazardous Waste* label on it.

VIII. WASTE MINIMIZATION

Waste minimization is any action that reduces the amount and/or toxicity of chemical wastes that must be shipped off-site for disposal as hazardous waste. The success of any waste minimization program is dependent on the conscientious participation of every individual at Ball State University. There are three methods of waste minimization:

Source Elimination:

Remove the source of the waste by eliminating the process or practice or by substituting another process that does not generate a waste, or generates only a secondary material that can be used as a raw material in another process. For example, some laboratory demonstrations necessitate the use

of chemicals that are toxic or inherently dangerous to handle. Sometimes these demonstrations can be eliminated, reproduced by other means, or video demonstrations utilized rather than performing laboratory displays that generate hazardous wastes requiring disposal.

Source Reduction:

The second most desirable method of waste minimization is source reduction. This is any activity that reduces the generation of chemical hazardous waste at the source. This can be accomplished by good materials management, substitution of less hazardous materials, and good laboratory procedures. Examples include:

- Implement a waste minimization policy and train all employees and students.
- Re-evaluate procedures to see if a less hazardous or non-hazardous reagent could be used.
- Centralize purchasing of chemicals through one person in the department or laboratory.
- Date chemical containers when received so that older ones will be used first.
- Keep MSDS's for chemicals on file.
- Inventory chemicals and identify their location at least once a year.
- Perform laboratory experiments or demonstrations on a smaller or micro-scale.
- Update inventory when chemicals are purchased or used up.
- Purchase chemicals in the smallest quantities needed.
- Label all chemical containers to prevent the generation of unknowns.
- When considering a new procedure, obtain the chemicals needed from another lab or purchase small quantities initially.
- Consider the use of pre-weighed or pre-measured reagent packets where waste generation is high.
- Avoid the use of reagents containing arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver.
- Eliminate the use of chromic acid cleaning solutions altogether. Use non-hazardous solutions such as Alconox and Pierce RBS35.
- Substitute red liquid (spirit-filled), digital, or thermocouple thermometers for mercury thermometers when it is feasible.
- Consider using detergent and hot water or citrus based products for cleaning parts instead of solvents.
- Use latex-based paints which are typically non-hazardous. Excess latex paints should be recycled. Excess non-latex paints must be handled by EHS as a hazardous waste.
- Utilize vendors that will recycle used antifreeze. Some vendors will recycle the antifreeze on site so the antifreeze never leaves the site.

Recycling:

The third most desirable approach is recycling. When a waste material is used for another purpose, treated and reused in the same process, or reclaimed for another process, it is considered recycling. Examples include:

- When solvent is used for cleaning purposes, use contaminated solvent for initial cleaning and fresh solvent for final cleaning.
- Purchase compressed gas cylinders (including lecture bottles) only from manufacturers who will accept empty cylinders.
- Return excess pesticides to the distributor.
- Have a silver recovery unit installed in photography laboratories. The unit removes the silver from the fixer solution.
- Do not contaminate used oil with solvents because this prevents the oil from being recycled.
- Increase solvent reuse through the use of solvent redistillation.
- Recirculate unused or excess chemicals within the department.
- Collect metallic mercury for reclamation.

Note: Portions of this Waste Management Guide was developed based on a University of Florida Department of Environmental Health and Safety Guidance document.

Appendix A: TOXICITY CHARACTERISTICS

HEAVY METALS (8)

ARSENIC

BARIUM

CADMIUM

CHROMIUM

LEAD

MERCURY

SELENIUM

SILVER

PESTICIDES (10)

2,4-D

ENDRIN

HEPTACHLOR (AND ITS EPOXIDE)

HEXACHLOROBENZENE

HEXACHLOROBUTADIENE

HEXACHLOROETHANE

LINDANE

METHOXYCHLOR

TOXAPHENE

2,4,5-TP (SILVEX)

ORGANIC CHEMICALS (22)

BENZENE

CARBON TETRACHLORIDE

CHLORDANE

CHLOROBENZENE

CHLOROFORM

O-CRESOL

M-CRESOL

P-CRESOL

CRESOL

1,4-DICHLOROBENZENE

1,2-DICHLOROETHANE

1,1 -DICHLOROETHYLENE

2,4-DINITROTOLUENE

METHYL ETHYL KETONE

NITROBENZENE

PENTRACHLOROPHENOL

PYRIDINE

TETRACHLOROETHYLENE

TRICHLOROETHYLENE

2,4,5-TRICHLOROPHENOL

2,4,6-TRICHLOROPHENOL

VINYL CHLORIDE

Appendix B: LISTED HAZARDOUS WASTES

(AND CONSTITUENTS)

* P-Listed Waste

Acetaldehyde (I)

Acetaldehyde, chloro-*

Acetaldehyde, trichloro-

Acetamide, N-(aminothioxomethyl)-*

Acetamide, N-(4-ethoxyphenyl)-

Acetamide, N-9H-fluoren-2-yl-

Acetamide, 2-fluoro-*

Acetic acid,(2,4-dichlorophenoxy)-,

salts & esters

Acetic acid, ethyl ester (I)

Acetic acid, fluoro-, sodium salt*

Acetic acid, lead(2+) salt

Acetic acid, thallium(1 +) salt

Acetic acid, (2,4,5-trichlorophenoxy)-

Acetone (I)

Acetone (10% or more)

Acetonitrile (I,T)

Acetophenone

Acetylaminofluorene, 2-

Acetyl chloride (C,R,T)

Acetyl-2-thiourea, 1-*

Acrolein*

Acrylamide

Acrylic acid (I)

Acrylonitrile

Aldicarb *

Aldicarb sulfone *

Allyl alcohol *

Aluminum phosphide (R,T) *

Aminomethyl-3-isoxazolol, 5-*

Aminopyridine, 4-*

Amitrole

Ammonium picrate (R) *

Ammonium vanadate *

Aniline (I,T)

Argentate(1-), bis(cyano-C)-,potassium*

Arsenic (Contaminant) (5.0 mg/L or more)

Arsenic acid H-3 As O-4*

Arsenic oxide As-2 O-3 *

Arsenic oxide As-2 O-5 *

Arsenic pentoxide *

Arsenic trioxide *

Arsine, diethyl- *

Arsinic acid, dimethyl-

Arsonous dichloride, phenyl-*

Auramine

Azaserine

H-Azepine-1-carbothioic acid, hexahydro-,S-ethyl ester

Aziridine *

Aziridine, 2-methyl-*

Azirino(2,3:3,4)pyrrolo(1,2-a)-indole,

6-amino-8-(((aminocarbonyl)

oxylmethyl)-1,1a,2,8,8a,8b-hexahydro-

8a-methoxy-5-methyl-,[1aS-(1aalpha,

8beta,8aalpha,8balpha)]-

Barban

Barium(Contaminant) (1 00.0 mg/L or more)

Barium cyanide *

Bendiocarb

Bendiocarb phenol

Benomyl

Benz[j]aceanthrylene, 1,2-dihydro-3-

methyl-

Benz[c] acridine

Benzeneacetic acid, 4-chloro-alpha-(4-

chlorophenyl)-alpha-hydroxy-,

ethyl ester

Benzal chloride

Benzamide, 3,5-dichloro-N-(1,1-

dimethyl-2-propynyl)-

Benz [a] anthracene

Benz [a] anthracene, 7,12-dimethyl-

Benzenamine (I,T)

Benzenamine, 4,4'-carbonimidoylbis

[N,N-dimethyl-

Benzenamine, 4-chloro-*

Benzenamine, 4-chloro-2-methyl-,

hydrochloride

Benzenamine, N,N-dimethyl-4(phenylazo)-

Benzenamine, 2-methyl-

Benzenamine, 2-methyl, hydrochloride

Benzenamine, 2-methyl-5-nitro-

Benzenamine, 4-methyl-

Benzenamine, 4,4'-methylenebis

[2-chloro]-

Benzenamine, 4-nitro-*

Benzene (I,T)

Benzene (10% or more)

Benzene (Contaminant) (0.5 mg/L or more)

Benzene, 1-bromo-4-phenoxy-

Benzene, chloro-

Benzene, (chloromethyl)-*

Benzene, 1,2-dichloro-

Benzene,1,2-dichloro(a.k.a ortho-

dichloro-) (1 0% or more)

Benzene, 1,3-dichloro-

Benzene, 1,4-dichloro-

Benzene, 1,1'-(2,2-dichloroethylidene)

bis[4- chloro-

Benzene, (dichloromethyl)-

Benzene, 1,3-diisocyanatomethyl-(R,T)

Benzene, dimethyl- (I,T)

Benzene, hexachloro-

Benzene, hexahydro-(I)

Benzene, methyl-

Benzene, 1-methyl-2,4-dinitro-

Benzene, 2-methyl-1,3-dinitro-

Benzene, (1-methylethyl)- (I)

Benzene, nitro-

Benzene, pentachloro-

Benzene, pentachloronitro-

Benzene, 1,2,4,5-tetrachloro-

Benzene, 1,1'-(2,2,2-trichloro-

ethylidene) bis[4-chloro-

Benzene, 1,1'-(2,2,2-Trichloro-

ethylidene)bis [4-methoxy-

Benzene, (trichloromethyl)-

Benzene, 1,3,5-trinitro-

Benzenebutanoic acid, 4-[bis(2-

chloroethyl)amino]-

Benzenediamine, ar-methyl-

Benzenedicarboxylic acid(1,2-),

bis(2-ethylhexyl)ester

Benzenedicarboxylic acid(1,2),

dibutyl ester

Benzenedicarboxylic acid(1,2),

diethyl ester

Benzenedicarboxylic acid(1,2),

dimethyl ester

Benzenedicarboxylic acid(1,2)

dioctyl ester

Benzenediol(1,3)

Benzenediol(1,2-), 4-[1-hydroxy-

2(methylamino) ethyl]-, (R) *

Benzeneethanamine(alpha,alpha-

dimethyl-) *

Benzenesulfonic acid chloride (C,R)

Benzenesulfonyl chloride (C, R)

Benzenethiol *

Benzidine Benzisothiazol-3(2H)-

one(1,2), 1,1-dioxide, & salts

Benzodioxole(1,3), 5-(2-propenyl)-

Benzodioxole(1,3-), 5-propyl-

Benzodioxole(1,3-), 5-(1-propenyl)-

1,3-Benzodioxol-4-ol, 2,2-dimethyl-

1,3-Benzodioxol-4-ol, 2,2-

dimethyl-, methylcarbamate

7-Benzofuranol, 2,3-dihydro-2,2-

dimethyl-

7-Benzofuranol,2,3-dihydro-2,2-

dimethyl-, methylcarbamate *

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 *

Benzo[rst]pentaphene

Benzopyran-2-one(2H-1), 4-hydroxy-3-

(3- oxo-1-phenylbutyl)-,& salts, when

present at concentrations greater

than 0.3% *

Benzopyran-2-one(2H-1), 4-hydroxy-3-(3-

oxo-1-phenyl-butyl)-, & salts, when present at concentrations of 0.3% or

esent at concentiati

less

Benzo[a]pyrene

p-Benzoquinone

Benzotrichloride (C,R,T)

Benzyl chloride *

Beryllium *

Bioxirane(2,2'-)

Biphenyl(1,1'-]-4,4'-diamine

Biphenyl(1,1']-4,4'-diamine, 3,3'-

dichloro-

Biphenyl(1,1']-4,4'-diamine, 3,3'-

dimethoxy

Biphenyl(1,1']-4,4'-diamine, 3,3'-

dimethyl-

 $Bis (dimethyl thio carbamoyl) \ sulfide$

Bis(pentamethylene)thiuram tetrasulfide

Bromoacetone *

Bromoform

Bromophenyl(4) phenyl ether

Brucine *

Butadiene(1,3), 1,1,2,3,4,4-hexachloro-

Butanamine(1), N-butyl_N-nitroso-

Butanol(1) (I)

Butanone(2-) (I,T) Butanone(2),3,3-

dimethyl-1-(methylthio)-

,O[(methylamino)carbonyl] oxime *

Butanone(2-), peroxide (R,T)

Butenal(2)

Butene(2), 1,4-dichloro-(I,T)

Butenoic acid(2-), 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]]-n-Butyl alcohol (I) n-Butyl alcohol (10% or more) Butylate

Cacodylic acid

Cadmium(Contaminant)(1.0 mg/L or more)

Calcium chromate

Calcium cyanide *

Calcuim cyanide Ca(CN)2 *

Carbamic acid, 1H-benzimidazol-2-

yl, methyl ester

Carbamic acid, (1-((butylamino)

carbonyl)-1H-benzimadazol 2-yl]-,

methyl ester

Carbamic acid, butyl-, 3-iodo-2-

propynyl ester

Carbamic acid,(3-chlorophenyl)-,4-

chloro-2-butynyl ester

Carbamic acid, [(dibutylamino)-thio]

methyl-,2,3-dihydro-'2,2-dimethyl-7-

benzofuranyl ester *

Carbamic acid, dimethyl-,1-

[(dimethylamino)carbonyl]-5-

methyl-1H-pyrazol-3-yl ester *

Carbamic acid, dimethyl-, 3-methyl-1-

(1-methylethyl)-1H-pyrazol-5-yl ester*

Carbamic acid, ethyl ester

Carbamic acid, methyl-,3-methylphenyl ester *

Carbamic acid, methylnitroso-,

ethyl ester

Carbamic acid, phenyl-, 1-

methylethyl ester

Carbamic acid, [1,2-phenylenebis

(iminocarbonothioyl)]bis-,

dimethyl ester

Carbamic chloride, dimethyl-

Carbamodithioic acid, dibutyl,

sodium salt

Carbamodithioic acid, diethyl-, 2-

chloro-2-propenyl ester

Carbamodithioic acid, diethyl-,

sodium salt

Carbamodithioic acid, dimethyl-,

potassium salt

Carbamodithioic acid, dimethyl-,

sodium salt

Carbamodithioic acid, dimethyl-, tetraanhydrosulfide with

orthoselenious acid

Carbamodithioic acid, 1,2ethanediylbis-,salts & esters

Carbamodithioic acid,(hydroxymethyl)

methyl-,monopotassium salt

Carbamodithioic acid, methyl-,

monosodium salt

Carbamodithioic acid, methyl-,

monopotassium salt

Carbamothioic acid, bis(1-methylethyl)-

,S-(2,3-dichloro-2-propenyl) ester

Carbamothioic acid,bis(1-methylethyl)-

,S-(2,3,3,-trichloro-2-propenyl)

ester

Carbamothioic acid, bis(2-

methylpropyl)-, S-ethyl ester

Carbamothioic acid, butylethyl-, S-

propyl ester

Carbamothioic acid,

cyclohexylethyl-, S-ethyl ester

Carbamothioic acid, dipropyl-,

S-ethyl ester

Carbamothioic acid, dipropyl-,

S-(phenylmethyl) ester

Carbamothioic acid, dipropyl-,

S-propyl ester

Carbaryl

Carbendazim

Carbofuran *

Carbofuran phenol

Carbon disulfide *

Carbon disulfide (10% or more)

Carbon oxyfluoride (R,T)

Carbon tetrachloride

Carbon tetrachloride (Contaminant)

(0.5 mg/L or more)

Carbon tetrachloride (DEGREASING

ONLY) (10% or more)

Carbonic acid, dithallium(1+) salt

Carbonic dichloride

Carbonic difluoride

Carbonochloridic acid, methyl ester

(I,T)

Carbosulfan *

Chloral

Chlorambucil

Chlordane, alpha & gamma isomers

Chloropaetaldehyda *

Chloroacetaldehyde *
p-Chloroaniline *

Chlorobenzene

Chlorobenzene (10% or more) Chlorobenzene (Contaminant)

 $(100.0 \, \mathrm{mg/L} \, \mathrm{or} \, \mathrm{more})$

Chlorobenzilate

Chloro(2-)-1,3-butadiene (HOC)

p-Chloro-m-cresol

Chloroethyl (2) vinyl ether Chlorofluorocarbons

(DEGREASING ONLY) (10% or more)

Chloroform

Chloroform (Contaminant)

(6.0 mg/L or more)

Chloromethyl methyl ether

Chloronaphthalene, beta-

 $Chloronaphthalene (2-) \ (HOC)$

Chlorophenol (o-)

Chlorophenyl(1-o-)thiourea *
Chloropropionitrile(3-) * Chloro-

o-toluidine(4), hydrochloride

Chromic acid H-2 CrO-4, calcium salt Chromium(Contaminant)(5.0 mg/L or more)

Chrysene

Copper, bis (dimethylcarbamodithioato-

S,S')-,

Copper cyanide *

Copper cyanide Cu(CN) *

Copper dimethyldithiocarbamate Corrosive (LIQUIDS ONLY) $[pH \le 2 \text{ or } pH > 12.5]$

Creosote

Cresol (Cresylic acid)

Cresol (Cresylic acid) (10% or more)

Cresol (Contaminant) (200.0 mg/L or more) o-Cresol (Contaminant) (200.0 mg/L or more) m-Cresol (Contaminant)

(200.0 mg/L or more) p-Cresol (Contaminant)

(200.0 mg/L or more)

Cresylic acid (See Cresol)

Crotonal dehyde

Cumene (I)

m-Cumenyl methylcarbamate * Cyanides (soluble cyanide salts),

not otherwise specified *

Cyanide-bearing material (when pH between 2 and 12.5)

Cyanogen *

Cyanogen bromide (CN)Br Cyanogen chloride * Cyanogen Chloride (CN)Cl *

Cycloate

Cyclohexadiene(2,5-)-1,4-dione Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,

5alpha,6beta)-Cyclohexane (I) Cyclohexanone (I)

Cyclohexanone (10% or more)

Cyclohexyl(2)-4,6-dinitrophenol *

Cyclopentadiene(1,3-), 1,2,3,4,5,5-

hexachloro-Cyclophosphamide

D(2,4) (Contaminant) (10.0 mg/L or more)

D(2,4-), salts & esters Daunomycin Dazomet DDD DDT

DDT Diallate

Dibenzo[a,i]pyrene Dibenz[a,h]anthracene Dibromo(1,2-)-3-chloropropane

Dibutyl phthalate o-Dichlorobenzene o-

Dichlorobenzene (10% or more)

m-Dichlorobenzene p-Dichlorobenzene

Dichlorobenzene(1,4)(Contaminant) (7.5 mg/L or more) Dichloro-

2-butene(1,4) (I,T) Dichloroisopropyl ether Dichlorobenzidine(3,3') 1,4-

Dichloro-2-butene Dichlorodifluoromethane Dichloroethane(1,2)(Contaminant)

(0.5 mg/L or more)

Dichloroethylene(1,1) (Contaminant)

(0.7 mg/L or more) Dichloroethyl ether Dichloroethylene(1,1) Dichloroethylene(1,2)

Dichloromethane (a.k.a Methylene

chloride) (10% or more)

Dichloromethane (DEGREASING ONLY)

(10% or more)

Dichloromethoxy ethane

Dichloromethyl ether *

Dichlorophenol(2,4)

Dichlorophenol(2,6)

Dichlorophenylarsine *

Dichloropropene(1,3)

Dieldrin *

Diepoxybutane(1,2:3,4) (I,T)

Diethylarsine *

Diethylene glycol, dicarbamate

Diethyleneoxide(1,4)

Diethylhexyl phthalate

Diethylhydrazine (N,N-)

N,N'-Diethylhydrazine

O,O-Diethyl S-methyl dithiophosphate

Diethyl-p-nitrophenyl phosphate *

Diethyl phthalate

O,O-Diethyl O-pyrazinyl

phosphorothioate *

Diethylstilbesterol

Dihydrosafrole

Diisopropylfluorophosphate (DFP) *

Dimethanonaphthalene(1,4,5,8)1,2,3,4,

10,10-hexachloro-1,4,4a,5,8,8a-

hexahydro-,(1alpha,4alpha,

4abeta,5beta,8beta,8abeta)-*

Dimethanonaphthalene(1,4,5,8)1,2,3,4,

10,10-hexachloro-1,4,4a,5,8,8a-

hexahydro-,(1alpha,4alpha,4abeta,

5alpha,8alpha,8abeta)-*

Dimethanonaphth(2,7:3,6)[2,3b]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 *

Dimethanonaphth(2,7:3,6)[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)*

Dimethoate *

Dimethoxydenzidine(3,3')

Dimethylamine (I) p-

Dimethylaminoazobenzene

Dimethylbenz[a]anthracene(7,12)

Dimethylbenzidine(3,3')

alpha.alpha-Dimethylbenzylhydro-

peroxide (R)

Dimethylcarbamoyl chloride

Dimethylhydrazine(1,1)

Dimethylhydrazine(1,2)

Dimethylphenol(2,4)

Dimethylphenethylamine(alpha,alpha-) *

Dimethyl phthalate

Dimethyl sulfate

Dimetilan *

Dinitro-o-cresol(4,6), and salts *

Dinitrophenol(2,4) *

Dinitrotoluene(2,4)

Dinitrotoluene(2,4) (Contaminant)

(0.13 mg/L or more)

Dinitrotoluene(2,6)

Dinoseb *

Di-n-octyl phthalate

Dioxane(1,4)

Diphenylhydrazine(1,2)

Diphosphoramide, octamethyl-*

Diphosphoric acid,tetraethyl ester*

Dipropylamine (I)

Disulfoton *

Disulfiram

Dithiobiuret * 1,3-Dithiolane-2-

carboxaldehyde, 2,4- dimethyl-,O-[(methylamino) carbonyl] oxime *

Ethyleneimine *

Endosulfan *

Endothall *

Endrin *

Endrin, and metabolites *

Endrin (a.k.a. 1,2,3,4,10,10-hexa

chloro-1,7-epoxy-1,4,4a,5,6,7,8,8a-

octahydro-1,4-endo, endo-5,8-dimeth

ano-naphthalene(0.02 mg/L or more)

Epichlorohydrin

Epinephrine *

EPTC

Ethanal (I)

Ethanal (I)

Ethanamine, N,N-diethyl-

Ethanamine, N-ethyl-N-nitroso-

Ethane, 1,2-dibromo-

Ethane, 1,1-dichloro-

Ethane, 1,2-dichloro-

Ethane, hexachloro-Ethane, 1,1'-[methylenebis

(oxy)]bis[2-chloro-

Ethane, 1,1'-oxybis- (I)

Ethane, 1,1'-oxybis[2-chloro-

Ethane, pentachloro-

Ethane, 1,1,1,2-tetrachloro-

Ethane, 1,1,2,2-tetrachloro-

Ethane, 1,1,1-trichloro-

Ethane, 1,1,2-trichloro-

Ethane, 1,1,2-trichloro-1,2,2-

trifluoro- (10% or more)

Ethanediamine(1,2), N,N-dimethyl-N'-2-

pyridinyl-N'-(2-thienylmethyl)-

Ethanedinitrile *

Ethanethioamide

Ethanimidothioic acid, 2-(dimethylamino) -N-hydroxy-2-oxo-,methyl ester

Ethanimidothioic acid, 2-(dimethylamino)-N-[[(methylamino) carbonyl]

oxy]-2-oxo-, methyl ester *

Ethanimidothioic acid, N,N'-

[thiobis[(methylimino)

carbonyloxy]]bis-,dimethyl ester

Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester *

Ethanol, 2-ethoxy-

Ethanol, 2,2'-(nitrosoimino)bis-

Ethanol, 2,2'-oxybis-, dicarbamate

Ethanone, 1-phenyl-

Ethene, chloro-

Ethene, (2-chloroethoxy)-

Ethene, 1,1-dichloro-

Ethene, 1,2-dichloro-, (E)-

Ethene, tetrachloro-

Ethene, trichloro-

Ethoxyethanol(2-) (10% or more)

Ethyl acetate (I)

Ethyl acetate (10% or more)

Ethyl acrylate (I)

Ethylbenzene (10% or more)

Ethyl carbamate (urethane)

Ethyl cyanide *

Ethylene(bis)dithiocarbamic acid,

salts & ester

Ethylene dibromide

Ethylene dichloride

Ethylene glycol monoethyl ether

Ethyleneimine *

Ethylene oxide (I,T)

Ethylenethiourea

Ethyl ether (I)

Ethyl ether (10% or more)

Ethylidene dichloride

Ethyl methacrylate

Ethyl methanesulfonate

Ethyl ziram

Famphur*

Ferbam

Flammable material (Liquid, solid, or gas) (Flash point 140 F (60 C)or less)

Fluoranthene

Fluorine *

Fluoroacetamide *

Fluoroacetic acid, sodium salt *

Formaldehyde

Formetanate hydrochloride *

Formic acid (C,T)

Formparanate *

Fulminic acid, mercury(2+)salt (Rj) *

Furan (I)

Furan, tetrahydro- (I)

Furancarboxaldehyde(2) (I)

Furandione (2,5)

Furfural (I)

Furfuran (I)

Glucopyranose, 2-deoxy-2-(3-methyl-

3-nitrosoureido)-, D-

D-Glucose, 2-deoxy-2-[[(methylnitroso-

amino)-carbonyl]amino]-

Glycidylaldehyde

Guanidine, N-methyl-N'-nitro-N-nitroso-

Heptachlor *

Heptachlor(and its epoxide)

(Contaminant) (0.008 mg/L or more)

Hexachlorobenzene

Hexachlorobenzene(Contaminant)

(0.13 mg/L or more

Hexachlorobutadiene

Hexachlorobutadiene(Contaminant)

(0.5 mg/L or more)

Hexachlorocyclopentadiene

Hexachloroethane

Hexachloroethane(Contaminant)

(3.0 mg/L or more)

Hexachlorophene

Hexachloropropene

Hexaethyl tetraphosphate *

Hydrazine (R,T)

Hydrazinecarbothioamide *

Hydrazine, 1,2-diethyl-

Hydrazine, 1,1-dimethyl-

Hydrazine, 1,2-dimethyl-

Hydrazine, 1,2-diphenyl-

Hydrazine, methyl-*

Hydrocyanic acid *

Hydrofluoric acid (C,T)

Hydrogen cyanide *

Hydrogen fluoride (C,T)

Hydrogen phosphide *

Hydrogen sulfide

Hydrogen sulfide H-2 S

Hydroperoxide,1-methyl-1-phenylethyl-(R)

Imidazolidinethione(2)

Indeno[1,2,3-cd]pyrene 3-Iodo-2-

propynyl-n-butylcarbamate

Iron dextran

Iron, tris

(dimethylcarbamodithioato-S,S')-,

Isobenzofurandione(1,3)

Isobutyl alcohol (I,T)

Isobutyl alcohol (10% or more)

Isodrin *

Isolan *

3-Isopropylphenyl N-methylcarbamate *

Isosafrole

Isoxazolone(3(2H)),5-(aminomethyl)-*

Kepone

Lasiocarpine

Lead (Contaminant) (5.0 mg/L or more)

Lead (Liquids-500mg/L or more)

Lead acetate

Lead, bis(acetato-O) tetrahydroxytri-

Lead phosphate

Lead subacetate

Lindane Lindane(1,2,3,4,5,6-

hexachlorocyclo- hexane, gamma

isomer(0.4 mg/L or more)

Maleic anhydride

Maleic hydrazide

Malononitrile

Melphalan

Manganese, bis (dimethyl

carbamodithioato-S,S')-, *

Manganese dimethyldithiocarbamate *

Mercury

Mercury(Contaminant)(0.2 mg/L or more)

Mercury, (acetato-O)phenyl-*

Mercury fulminate (R,T) *

Metam sodium

Methacrylonitrile (I,T)

Methanamine, N-methyl- (I)

Methananmine, N-methyl-N-nitroso-*

Methane, bromo-

Methane, chloromethoxy-

Methane, chloro- (I,T)

Methane, dibromo-

Methane, dichlorodifluoro-

Methane, dichloro-

Methane, iodo-

Methane, isocyanato-*

Methane, oxybis [chloro-*

Methane, tetrachloro-

Methane, tetranitro- (R) *

Methane, tribromo-

Methane, trichloro-

Methane, trichlorofluoro-

Methanesulfonic acid, ethyl ester

Methanethiol (I.T)

Methanethiol, trichloro-*

Methanimidamide, N,N-dimethyl-N'-

[3--[[(methylamino)-carbonyl]

oxy[phenyl]-, monohydrochloride *

Methanimidamide, N,N-dimethyl-N' [2-

methyl-4-([(methylamino)carbonyl]

oxy]phenyl]-*

Methiocarb *

Metolcarb *

Methanol (I)

Methanol (10% or more) Methano(6,9-

)-2,4,3,benzo dioxathiepin

,6,7,8,9,10,10-hexachloro-1,5,5a,

6,9,9a-hexahydro-, 3-oxide *

Methano-1H-indene(4,7),1,4,5,6,7,8,

8-heptachloro-3a,4,7,7a-tetrahydro-*

Methano(4,7)-1H-indene,1,2,4,5,6,7,

8,8-octachloro-2,3,3a,4,7,7a-

hexahydro-

Methapyrilene

Metheno-2H-cyclobuta(1,3,4) [cd]pentalen-

2-one,1 ,1 a,3,3a,4,5,5a,5b,6-

decachlorooctahydro-

Methomyl *

Methoxychlor

Methoxychlor (a.k.a. 1,1,1-Trichloro-

2,2-bis[p-methoxyphenyl]ethane)

(Contaminant)(10.0 mg/L or more)

Methyl alcohol (I)

Methyl bromide Methylbutadiene(1) (I) Methyl chloride (I,T)

Methyl chlorocarbonate (I,T)

Methyl chloroform

Methylcholanthrene (3-)

Methylene(4,4')bis(2-chloroaniline)

Methylene bromide

Methylene chloride (DEGREASING ONLY)

(10% or more)

Methylene chloride

Methylene chloride (10% or more)

Methyl ethyl ketone peroxide (R,T)

Methyl ethyl ketone (MEK) (I,T)

Methyl ethyl ketone (10% or more)

Methyl ethyl ketone (Contaminant)

(200.0 mg/L or more)

Methyl hydrazine *

Methyl iodide

Methyl isobutyl ketone (I)

Methyl isobutyl ketone(10% or more)

Methyl isocyanate *

Methyllactonitrile(2) *

Methyl methacrylate (I,T) 1-

Methyl-3-nitro-1-nitrosoguanidine

Methyl parathion *

Methyl(4-)-2-pentanone (I)

Methylthiouracil

Mexacarbate *

Mitomycin C

MNNG (a.k.a. 1-Methyl-3-nitro-1-

nitrosoguanidine)

Molinate

Naphthacenedione(5,12), 8-acetyl-

10-[(3-amino -2,3,6-trideoxy)-

alpha-L-lyxo-hexopyranosyl)oxyl-

7,8,9,10-tetrahydro-6,8,11-

trihydroxy-1-methoxy-, (8S-cis)-

Naphthalenamine(2-)

Naphthalenamine, N,N'-bis(2-

chloroethyl)-

Naphthalene

Naphthalene, 2-chloro-

Naphthalenamine(1-)

Naphthalenedione(1,4)

Naphthalenedisulfonic acid(2,7),3,3'-

[(3,3'-dimethyl[1,1'-biphenyl]4,4'-

diyl)bis(azo)bis[5-amino-4-hydroxy]-

,tetrasodium salt

1-Naphthalenol, methylcarbamate

Naphthoquinone(1,4)

alpha-Naphthylamine

beta-Naphthylamine

alpha-Naphthylthiourea *

Nickel carbonyl *

Nickel carbonyl Ni(CO)4,(T-4)-*

Nickel cyanide *

Nickel cyanide Ni(CN)2 *

Nicotine, and salts *

Nitric acid, thallium(1+) salt

Nitric oxide *

p-Nitroaniline *

Nitrobenzene (I,T)

Nitrobenzene (10% or more)

Nitrobenzene(Contaminant)

(2.0 mg/L or more)

Nitrogen dioxide *

Nitrogen oxide NO *

Nitrogen oxide NO2 *

Nitroglycerine (R) *

p-Nitrophenol

Nitropropane(2) (I,T)

Nitropropane(2) (10% or more)

N-Nitrosodi-n-butylamine N-

Nitrosodiethanolamine N-

Nitrosodiethylamine N-

Nitrosodimethylamine * N-

Nitroso-N-ethylurea N-

Nitroso-N-methylurea N-

Nitroso-N-methylurethane \mathbf{N} -

Nitrosomethylvinylamine * N-

Nitrosopiperidine N-

Nitrosopyrrolidine Nitro(5-)-o-

toluidine

Octamethylpyrophosphoramide *

Osmium oxide OsO4, (T-4)-*

Osmium tetroxide *

Oxabicyclo(7) [2.2.1]heptane-2,3-

dicarboxylic acid *

Oxamyl *

Oxathiolane(1,2-),2,2-dioxide

Oxazaphosphorin(2H-1,3,2-)-2-amine,N,N-

bis(2-chloroethyl)tetrahydro-,2-oxide

Oxidizer (Liquid and Solid)

Oxirane (I,T)

Oxiranecarboxyaldehyde

Oxirane, (chloromethyl)-

Paraldehyde

Parathion *

Pebulate

Pentachlorobenzene

Pentachlorodibenzo-p-dioxins (HOC)

Pentachlorodibenzofuran

Pentachloroethane

Pentachloronitrobenzene (PCNB)

Pentachlorophenol

Pentachlorophenol(Contaminant)

(100.0 mg/L or more) Pentadiene(1,3) (I) Pentanol, 4-methyl-Phenacetin

Phenol, 2-chloro-

Phenol

Phenol, 4-chloro-3-methyl-

Phenol, 2-cyclohexyl-4,6-dinitro-*

Phenol, 2,4-dichloro-Phenol, 2,6-dichloro-Phenol, 4,4'-(1,2-diethyl-1,2-

ethenediyl)bis-,(E)-

Phenol, 2,4-dimethyl-Phenol, (3,5-dimethyl-4-

(magtherithic) mathericanhar

(methylthio)-, methylcarbamate * Phenol, 4-(dimethylamino)-3,5-dimethyl-,methylcarbamate(ester)*

Phenol, 2,4-dinitro-*

Phenol, methyl- **Phenol,2-methyl-4,6-dinitro-,and salts*** Phenol, 2,2'-

methylenebis[3,4,6-trichloro] -

Phenol, 3-(1-methylethyl)-, methylcarbamate *

Phenol, 2-(1-methylethoxy)-,

methylcarbamate

Phenol, 3-methyl-5-(1-methylethyl),

methylcarbamate *

Phenol, 2-(1-methylpropyl)-4,6-

dinitro-*

Phenol, 4-nitro-

Phenol, pentachloro-Phenol, 2,3,4,6-tetrachloro-Phenol, 2,4,5-trichloro-

Phenol, 2,4,6-trichloro-

Phenol,2,4,6-trinitro-, ammonium salt (R) *

L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-

Phenylmercury acetate *

Phenylthiourea *

Phorate *

Phospene *
Phosphine *

Phosphoric acid, diethyl 4-

nitrophenyl ester *

Phosphoric acid, lead(2+) salt(2:3)

Phosphorodithioic acid,O,O-diethyl

S-[2-(ethylthio)ethyl] ester *

Phosphorodithioic acid, O,O-diethyl

S-[(ethylthio)methyl] ester *

Phosphorodithioic acid, O,O-diethyl

S-methyl ester

Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-

oxoethyl] ester *

Phosphorofluoridic acid, bis(1-

methylethyl) ester *

Phosphorothioic acid, O,O-diethyl

O-(4-nitrophenyl) ester *

Phosphorothioic acid, O,O-diethyl

O-pyrazinyl ester *

Phosphorothioic acid, O-[4-

[dimethylamino)sulfonyl]phenyl]

O,O-dimethyl ester *

Phosphorothioic acid, O,O,-dimethyl

O-(4-nitrophenyl) ester *

Phosphorus sulfide (R) Phthalic anhydride

Physostigmine *

Physostigmine salicylate *

Picoline(2)

Piperidine, 1-nitroso-Piperidine, 1,1'-(tetra thiodicarbonothioyl)-bis-Plumbane, tetraethyl-

Polychlorinated Biphenols (PCB's) *

Potassium cyanide *

Potassium cyanide K(CN) *

Potassium dimethyldithiocarbamate Potassium n-hydroxymethyl-n-

methyldithiocarbamate

Potassium n-methyldithiocarbamate

Potassium silver cyanide *

Promecarb *

Pronamide

Propanal, 2-methyl-2-(methylithio)-,O-[(methylamino)carbonyl]oxime *

Propanal, 2-methyl-2-(methyl-sulfonyl)- O-I(methylamino)

sulfonyl)-,O-[(methylamino) carbonyl] oxime *

Propanamine(1-) (I,T)

Propanamine(1-),N-nitroso-N-propyl-

Propanamine(1), N-propyl- (I)

Propane, 1,2-dibromo-3-chloro-

Propane, 1,2-dichloro-

Propane, 2,2'-oxybis[2-chloro-

Propane, 2-nitro- (I,T)

Propane sultone(1,3)

Propanedinitrile

Propanenitrile *

Propanenitrile, 3-chloro-*

Propanenitrile,2-hydroxy-2-methyl-*

Propanetriol(1,2,3),trinitrate (R)*

Propanoic acid, 2-(2,4,5-

trichlorophenoxy)-

Propanol(1), 2,3-dibromo-,

phosphate (3:1)

Propanol(1), 2-methyl- (I,T)

Propanone(2) (I)

Propanone(2), 1-bromo-*

Propargyl alcohol *

Propenal(2) *

Propenamide(2)

Propenenitrile(2)

Propenenitrile(2), 2-methyl- (I,T)

Propene(1), 1,3-dichloro-

Propene(1), 1,1,2,3,3,3-hexachloro-

Propenoic acid(2), ethyl ester (I)

Propenoic acid(2) 2-methyl-, ethyl

ester

Propenoic acid(2), 2-methyl-,

methyl ester (I,T)

Propenoic acid(2) (I)

Propen(2-)-1-ol *

Propham

Propoxur

n-Propylamine (I,T)

Propylene dichloride

Propylenimine(1,2) *

Di-n-propylnitrosamine

Propyn(2-)-1-ol *

Pro sulfocarb

Pyridazinedione(3,6) 1,2-dihydro-

Pyridinamine(4) *

Pyridine

Pyridine (10% or more)

Pyridine (Contaminant)

(5.0 mg/L or more)

Pyridine, 2-methyl-

Pyridine, 3-(1-methyl-2-pyrrolidiny)-,

(S)-, & salts *

Pyrimidinedione(2,4-(1H,3H)),

5-[bis(2-chloroethyl)amino]-

Pyrimidinone(4(1H)), 2,3-dihydro-6-

methyl-2-thioxo-

Pyrrolidine, 1-nitroso- Pyrrolo[2,3-

blindol-5-ol,1,2,3,3a,8,8a- hexahydro-

1,3a,8-trimethyl,methyl-carbamate

(ester),(3aS-cis)- *

Reactive Material (Liquid or Solid)

Reserpine

Resorcinol

Saccharin, and salts

Safrole

Selenious acid

Selenious acid, dithallium(1+)salt*

Selenium (Contaminant)

(1.0 mg/L or more)

Selenium dioxide Selenium

sulfide Selenium sulfide SeS-

2(R,T)

Selenium, tetrakis

(dimethyldithiocarbamate)

Selenourea *

L-Serine, diazoacetate (ester)

Silver(Contaminant)(5.0 mg/L or more)

Silver cyanide *

Silver cyanide Ag(CN) *

Silvex (2,4,5-TP) Silvex(2,4,5-

TP)(Contaminant)

(1mg/L or more) **Sodium**

azide * Sodium cyanide *

Sodium cyanide Na(CN) *

Sodium dibutyldithiocarbamate

Sodium diethyldithiocarbamate

Sodium dimethyldithiocarbamate

Streptozotocin

Strontium sulfide SrS *

Strychnidin-10-one,2,3-dimethoxy-*

Strychnidin- 10-one, and salts *

Strychnine, and salts *

Sulfallate

Sulfide-bearing material (when pH

between 2 and 12.5)

Sulfur phosphide (R)

Sulfuric acid, dimethyl ester

Sulfuric acid, dithallium(1+) salt*

T(2,4,5-)

TP(2,4,5-) Silvex (2,4,5-

Trichlorophenoxypropionic acid

(Contaminant) (1.0 mg/L or more)

Tetrabutylthiuram disulfide

Tetrachlorobenzene(1,2,4,5)

Tetrachloroethane(1,1,1,2)

Tetrachloroethane(1,1,2,2)

Tetrachloroethylene (DEGREASING ONLY)

(10% or more)

Tetrachloroethylene

Tetrachloroethylene (10% or more)

Tetrachloroethylene(Contaminant)

(0.7 mg/L or more)

Tetrachlorophenol(2,3,4,6)

Tetraethyldithiopyrophosphate *

Tetraethyl lead *

Tetraethyl pyrophosphate *

Tetrahydrofuran (I)

Tetramethylthiuram monosulfide

Tetranitromethane (R) *

Tetraphosphoric acid, hexaethyl

ester *

Thallic oxide *

Thallium(I) acetate

Thallium(I) carbonate

Thallium(I) chloride

Thallium chloride TlCl

Thallium(I) nitrate

Thallium oxide T1-2 O-3 *

Thallium(l) selenite *

Thallium(l) sulfate * 2H-

1,3,5-Thiadiazine-2-thione,

tetrahydro-3,5-dimethyl-

Thioacetamide

Thiodicarb

Thiodiphosphoric acid, tetraethyl

ester*

Thiofanox *

Thioimidodicarbonic diamide [(H-2N)

C(S)]-2 NH *

Thiomethanol (I,T)

Thioperoxydicarbonic diamide,

tetrabutyl

Thioperoxydicarbonic diamide,

tetraethvl

Thioperoxydicarbonic diamide[(H-

2N)C(S)]-2 S-2, tetramethyl-

Thiophanate-methyl

Thiophenol *

Thiosemicarbazide *

Thiourea

Thiourea, (2-chlorophenyl)-*

Thiourea, 1-naphthalenyl-*

Thiourea, phenyl *

Thiram

Tirpate *

Toluene

Toluene (10% or more)

Toluene diisocyanate (R,T)

Toluenediamine

o-Toluidine

p-Toluidine

o-Toluidine hydrochloride

Toxaphene *

Toxaphene(C10H10Cl8, Technical

Chlorinated camphene,67-69% chlorine)

(Contaminant) (0.5 mg/L or more)

Triallate

Triazol(1H-1,2,4-)-3-amine

Trichloroethane(1,1,1)(10% or more)

Trichloroethane(1,1,1) (DEGREASING

ONLY) (10% or more)

Trichloroethane(1,1,2)

Trichloroethane(1,1,2)(10% or more)

Trichloroethylene (DEGREASING ONLY)

(10% or more)

Trichloroethylene

Trichloroethylene (10% or more)

Trichloroethylene(Contaminant)

(0.5 mg/L or more)

Trichlorofluoromethane(10% or more)

Trichloromethanethiol *

Trichloromonofluoromethane

Trichlorophenol(2,4,5)

Trichlorophenol(2,4,5) (Contaminant)

(400.0 mg/L or more)

Trichlorophenol(2,4,6)

Trichlorophenol(2,4,6) (Contaminant)

(2.0 mg/L or more) Trichloro(1,1,2-

)-1,2,2-trifluoroethane

(Contaminant)(10% or more)

Triethylamine

Trinitrobenzene(1,3,5) (R,T)

Trioxane(1,3,5), 2,4,6-trimethyl-

Tris(2,3-dibromopropyl) phosphate

Trypan blue

Uracil mustard

Urea, N-ethyl-N-nitroso-

Urea, N-methyl-N-nitroso-

Vanadic acid, ammonium salt * Vanadium pentoxide * Vanadium oxide V-2 O-5 *

Vernolate

Vinylamine, N-methyl-N-nitroso-*

Vinyl chloride (Contaminant) (0.2 mg/L or more)

Warfarin, & salts,

at concentrations >0.3% *

Warfarin, & salts, when at conc.

0.3% or less

Waste, manufacturing (see 49CFR)

Wastewater treatment sludge

(see 49CFR)

Xylene (I)

Xylene (10% or more)

Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxy-benzoyl)oxy] -,methyl ester(3beta, 16beta,17alpha,1 8beta,20alpha)-

Zinc, bis(diethylcarbamodithioato-S,S')-

Zinc, bis(dimethylcarbamodithioato-S,S')- *

Zinc cyanide *

Zinc cyanide Zn(CN)-2*

Zinc phosphide Zn-3 P-2,

at conc. > 10% (R,T) *

Zinc phosphide Zn-3 P-2, at conc. of 10% or less

Ziram *

Appendix C: HAZARDOUS WASTE SATELLITE ACCUMULATION AREA REQUIREMENTS

- 1. Mark all waste containers with the words "Hazardous Waste."
- 2. **Label** all waste containers accurately indicating the contents.
- 3. **Limit** the satellite area waste volume to no more than 55 gallons of waste, or one quart of a "P" waste at any one time. For assistance in identifying waste types contact the EHS Environmental Specialist.
- 4. Close all containers during accumulation except when necessary to add or remove wastes. Do not overfill containers. Leave adequate headspace for expansion.
- 5. **Funnels** must be removed from containers when not in immediate use. All waste must be collected in sealable containers.
- 6. **Seal** all containers tightly. No beakers or open containers shall be used for waste accumulation.
- 7. Ensure waste is compatible with other wastes in the container, and with the type of container it is stored in. The exterior of the container must be free of chemical contamination; leaking containers must be over-packed. Segregate containers of incompatible waste to prevent reactions.
- 8. **Biohazard** waste, radioactive waste, and hazardous waste must not be mixed.
- 9. **Keep** the waste containers near the process generating the waste within the same laboratory and under the control of the waste generator.
- 10. **Inform** all students and employees of waste accumulation site requirements.
- 11. **Know** the location of your spill kit, emergency shower, fire extinguisher, and exits.
- 12. **Clean up** any spillage immediately. Contact the BSU Environmental Specialist (28)5-2807 if assistance is needed. Call (28)5-1111 for outside emergency assistance if warranted by the nature of the chemical spill, exposed persons, or sensitive location of the release.