



HUMBOLDT STATE UNIVERSITY

Hazardous Waste Management Guide

Environmental Health & Safety

Office of the EH&S Coordinator

316 Student and Business Services Building, ext.3302

November 5, 2004

(Revised: December 5, 2005)

(Revised: September 23, 2010)

(Revised: March 11, 2013)

(Revised: December 10, 2014)

(Revised: March 2016)

/

Contents

Sections

| | |
|--|----|
| 1. Introduction | 3 |
| 2. Environmental Health and Safety Information | 4 |
| 3. Definitions | 5 |
| 4. Hazard Determination | 7 |
| 5. Onsite Management..... | 9 |
| • Labeling..... | 9 |
| • Accumulation Time..... | 9 |
| • Waste Accumulation..... | 10 |
| • Waste Compatibility..... | 10 |
| • Containment of Hazardous Waste..... | 11 |
| • RM&SS Containers..... | 11 |
| • Packaging Procedures | 11 |
| • Inspections..... | 12 |
| • Compliance and Enforcement..... | 12 |
| 6. Universal Wastes..... | 13 |
| 7. Requesting a Hazardous Waste Pick-Up..... | 16 |
| • Hazardous Waste Transfer Request Form..... | 16 |
| 8. Spill Response..... | 17 |
| • Emergency Response Training..... | 17 |
| • Emergency Response Facilities..... | 18 |
| • Emergency Response Planning..... | 18 |
| • SIN..... | 18 |
| 9. Hazardous Waste Minimization..... | 19 |
| 10. Unknown/Unidentified Hazardous Wastes..... | 20 |
| 11. Hazardous Wastes of Concern..... | 21 |

Appendices

| | |
|--|----|
| A - Extremely Hazardous Wastes | 23 |
| B - Title 22 Listed Wastes..... | 29 |
| C - Chemical Compatibility..... | 46 |
| D - Tables II & III Toxic Levels..... | 54 |
| E - Generator Locations and Waste Stream Profiles..... | 56 |
| F - Hazardous Wastes of Concern List..... | 59 |

- Section 1 - Introduction

Excellence in education and research is of primary importance at Humboldt State University. In support of this activity, the Office of Risk Management and Safety Services(RM&SS) provides for the disposal of hazardous chemical waste. This document contains University authorized policies and procedures for the safe accumulation, handling and packaging of such wastes.

The procedures described herein are necessary to comply with the various rules promulgated by regulatory agencies governing hazardous waste management and disposal. The California Environmental Protection Agency (CalEPA) regulates disposal of chemical wastes in a cradle-to-grave fashion. This means that our responsibility for the disposition of hazardous wastes generated by Humboldt State University can never be relinquished.

The California Department of Toxic Substances Control (DTSC), a division of CalEPA, is charged with oversight and enforcement of hazardous waste regulations at the state level while the Humboldt County Department of Health Services, Environmental Health Division provides direct oversight at the local level. Hazardous waste regulations are codified in the California Code of Regulations, Title 22, Division 4.5.

The commission of Risk management and Safety Services is to provide for the safe, legal, efficient and ecologically sound disposal of hazardous wastes. The cooperation of HSU waste generators will help us to fulfill this charge. Generators must abide by the guidelines set forth in this document in order to comply with the applicable regulations.

If you have any questions about this manual, or hazardous materials management in general, contact Sabrina Zink the EH&S coordinator at ext. 3302 or Sabrina.Zink@Humboldt.edu

Finally, if you handle any potentially hazardous materials, learn what the associated hazards are and how to protect yourself from them. Companion documents detailing regulatory requirements, risks, handling precautions and other safety related information are listed below. These documents are available for review on the website at:

<https://www2.humboldt.edu/risksafety/node/90>

- Humboldt State University Injury and Illness Prevention Plan
- Humboldt State University Chemical Hygiene Plan
- Humboldt State University Radiation Safety Manual
- Humboldt State University Biosafety Manual

- Section 2 -

Environmental Health and Safety Information

Campus Emergency: 911 (University Police Department)
707.826.5555 (UPD non-emergency line)

RM&SS Staff:

Sabrina Zink, EH&S Coordinator, Radiation Safety Officer, Biosafety Officer
Paul Vrabel, Occupational Safety Coordinator
Willie Bence, Emergency Management Coordinator

Office of the EH&S Coordinator

Phone: 707.826.3302

Email Address: Sabrina.Zink@Humboldt.edu

Office of the Occupational Safety Coordinator

Phone: 707.826.5711

Email Address: pzv1@Humboldt.edu

Office of RM&SS Vacant

Phone:

Email Address:

- Section 3 - Definitions

“Acutely hazardous waste” or “Acute hazardous waste” means any hazardous waste classified as an acutely hazardous waste in article 4 of chapter 11 of this division. (Division 4.5 of Calif. Code Regulations Title 22)

“Disposal” means:

(a) the discharge, deposit, injection, dumping, spilling, leaking or placing of any waste or hazardous waste into or on any land or water so that such waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters;

(b) the abandonment of any waste.

“Empty” for pourable substances all material must be removed by any practicable means (including draining, pouring, pumping or aspirating)- a container is empty when there is no longer a continuous stream of material coming from the opening when the container is held in any orientation. For non-pourable substances, no hazardous material shall remain in the container that can feasibly be removed by physical methods, including scraping and chipping, but not rinsing. This standard applies to materials that pour slowly or don't pour at all from the container, including, but not limited to, viscous materials, solids which have “caked up” inside the container, and non-pourable sludges. Containers which previously held acute or extremely hazardous waste are considered empty only if the container has been triple-rinsed using a solvent capable of removing the material, or cleaning by another method which is proven to achieve equivalent removal to triple-rinsing. These activities may require formal authorization (permitting) by DTSC or the CUPA.

“Extremely hazardous material” means a substance or combination of substances which, if human exposure should occur, may likely result in death, disabling personal injury or serious illness caused by the substance or combination of substances because of its quantity, concentration or chemical characteristics.

“Extremely hazardous waste” means any hazardous waste or mixture of hazardous wastes which, if human exposure should occur, may likely result in death, disabling personal injury or serious illness caused by the hazardous waste or mixture of hazardous wastes because of its quantity, concentration or chemical characteristics.

“Generator” or “Producer” means any person, by site, whose act or process produces hazardous waste identified or listed in chapter 11 of this division or whose act first causes a hazardous waste to become subject to regulation.

“Hazardous waste” is defined as follows:

A waste or combination of wastes which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either: a. Cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or b. Pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of, or otherwise managed. or (b)(2) a. A waste that meets any of the criteria for the identification of a hazardous waste adopted by the department pursuant to Section 25141 [Title 22 regulations].

“Hazardous waste” includes, but is not limited to, RCRA hazardous waste. (i.e. meets the criteria of listing, ignitability, corrosivity, reactivity and/or toxicity.)

“Hazardous Waste Characteristics”

< The waste is a **listed** waste in CCR Title 22, Div. 4.5, §66261.31, §66261.32, or §66261.33., or; < The waste is **ignitable**. [22 CCR §66261.21] A liquid (other than an aqueous solution containing less than 24% alcohol by volume) with a flash point equal to or less than 140°F (60°C). A non-liquid, capable under standard temperature and pressure of causing fire by means of friction, absorption of moisture, or spontaneous chemical changes and which, when ignited, burns so vigorously and persistently that it creates a hazard. A flammable, compressed gas. An oxidizer., or; < The waste is **corrosive**. [22 CCR §66261.22] It is aqueous and has a pH equal to or less than 2, or equal to or greater than 12.5, or by mixture with an equivalent weight of water it produces a solution with those pH characteristics. It is a liquid (or when mixed with an equivalent weight of water it produces a liquid) and corrodes steel (SAE 20) at a rate greater than 0.250 inch (6.35 millimeters) per year., or; < The waste is **reactive**. [22 CCR §66261.23] Is normally unstable and readily undergoes violent change without detonating. Reacts violently with water. Form potentially explosive mixture with water. Generates toxic gases, vapors or fumes when mixed with water and does so in a quantity sufficient to present a danger to human health or the environment. 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. Is capable of detonation, explosive reaction or explosive decomposition., or; < The waste is **toxic**. [22 CCR §66261.24] It is a waste that, when analyzed by a state certified laboratory, is determined to exceed the regulatory levels established for the inorganic or organic chemicals found in Table II or Table III of 22 CCR §66261.24(a)(2) Is a waste that contains the California listed carcinogenic substances in single or combined concentration of 0.001% by weight by testing or other information available. Is determined by biological tests to be more toxic than any of the following:

an acute oral LD₅₀ less than 2,500 mg/Kg;

an acute dermal LD₅₀ less than 4,300 mg/Kg;

an acute inhalation LC₅₀ less than 10,000 ppm; and

an acute aquatic 96-hour LC₅₀ less than 500 mg/L.

or it can cause illness or death if inhaled, swallowed or absorbed through the skin.

“Management” or “hazardous waste management” means the handling, storage, transportation, processing, treatment, recovery, recycling, transfer and disposal of hazardous waste.

“Non-RCRA hazardous waste” means all hazardous waste regulated in the State, other than RCRA hazardous waste as defined in this section. A hazardous waste is presumed to be a RCRA hazardous waste, unless it is determined pursuant to section 66261.101 that the hazardous waste is a non-RCRA hazardous waste.

“Onsite” means the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a crossroads intersection, and access is by crossing as opposed to going along, the right-of-way. Noncontiguous properties owned by the same person but connected by a right-of-way which that person controls and to which the public does not have access, is also considered onsite property.

“RCRA hazardous waste” means all waste identified as a hazardous waste in Part 261 (commencing with section 261.1) of subchapter I of chapter 1 of Title 40 of the Code of Federal Regulations and appendices thereto.

“Release” means:

(a) Any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment.

(b) “Release” does not include any of the following:

(1) Any release which results in exposure to persons solely within a workplace, with respect to a claim such exposed persons may assert against their employer.

(2) Emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel or pipeline pumping station engine.

(3) Release of source, byproduct, or special nuclear material from a nuclear incident, as those terms are defined in the Atomic Energy Act of 1954 (42 U.S.C. 2011, et seq.), if such release is subject to requirements with respect to financial protection established by the Nuclear Regulatory Commission under section 2210 of Title 42 of the United States Code or, for the purposes of section 104 of the federal act (42 U.S.C. 9604) or any other response action, any release of source byproduct, or special nuclear material from any processing site designated under section 7912(a)(1) or 7942(a) of Title 42 of the United States Code, which sections are a part of the Uranium Mill Tailings Radiation Control Act of 1978.

(d) The normal application of fertilizer, plant growth regulants and pesticides.

For the purposes of chapters 14 and 15, “Repaired” means that equipment is adjusted, or otherwise altered, to eliminate a leak.

“Storage” means the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of or stored elsewhere.

“Treatment” means any method, technique, or process which changes or is designed to change the physical, chemical, or biological character or composition of any hazardous waste or any material contained therein, or removes or reduces its harmful properties or characteristics for any purpose including, but not limited to, energy recovery, material recovery or reduction in volume.

“Waste” is defined in the California Health and Safety Code (§25122) as follows:

Any material for which no use or reuse is intended and which is to be discarded. Any recyclable material. Any material that poses a threat to public health or the environment, and which meets either or both of the following conditions: Is mislabeled or not adequately labeled, unless the material is correctly labeled or adequately labeled within 10 days after the material is discovered to be mislabeled or inadequately labeled. Is packaged in deteriorated or damaged containers, unless the material is contained in sound or undamaged containers within 96 hours after the containers are discovered to be deteriorated or damaged.

- Section 4 -

Hazard Determination

It is the responsibility of every employee of Humboldt State University to determine whether or not the wastes they produce are hazardous as defined by the California Health and Safety Code and the California Code of Regulations.

This section will explain the definitions of “waste” and “hazardous waste” and how these definitions apply to your operations. In most cases, by following the steps outlined below, you should be able to classify your wastes as hazardous or non-hazardous. Code sections will be cited where applicable

Step 1. Determine whether or not the material is a waste.

The California Health and Safety Code (§25122) defines waste as:

- Any material for which no use or reuse is intended and which is to be discarded.
- Any recyclable material.
- Any material that poses a threat to public health or the environment, **and** which meets either or both of the following conditions:
 - Is mislabeled or not adequately labeled, unless the material is correctly labeled or adequately labeled within 10 days after the material is discovered to be mislabeled or inadequately labeled.
 - Is packaged in deteriorated or damaged containers, unless the material is contained in sound or undamaged containers within 96 hours after the containers are discovered to be deteriorated or damaged.

It should be noted that materials may inadvertently become wastes through mismanagement. Allowing labels to become unreadable, containers to deteriorate, or simply abandoning materials can cause them to be classified as wastes. A waste determination, in most cases, is made based on whether the product is still fit for its intended use. Inadequate labeling or containers may be confiscated by RM&SS (see Compliance and Enforcement).

Step 2. Determine whether or not the waste is a hazardous waste.

Check to see if the waste is listed in Title 22 of the California Code of Regulations, Division 4.5, Sections 66261.31, 66261.32, or 66261.33. (Appendix B)

If the waste is not listed, determine if it possesses any of the following characteristics:

1. The waste is ignitable. A liquid with a flash point equal to or less than 140°F (60°C). A non-liquid, capable under standard temperature and pressure of causing fire by means of friction, absorption of moisture, or spontaneous chemical changes and which, when ignited, burns so vigorously and persistently that it creates a hazard. A flammable, compressed gas. An oxidizer.

2. The waste is corrosive. It is aqueous and has a $\text{pH} \leq 2$, or ≥ 12.5 , or is capable of corroding SAE 20 steel at a rate greater than $\frac{1}{4}$ inch per year.
3. The waste is reactive. Is normally unstable and readily undergoes violent change without detonating. Reacts violently with water. Forms a potentially explosive mixture with water. Generates toxic gases, vapors or fumes when mixed with water and does so in a quantity sufficient to present a danger to human health or the environment. 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. Is capable of detonation, explosive reaction or explosive decomposition.
4. The waste is toxic. It is a waste that, when analyzed by a state certified laboratory, is determined to exceed the regulatory levels established for the inorganic or organic chemicals found in Table II or Table III of CCR Title 22, §66261.24(a)(2) (Appendix D) Is a waste that contains the California listed carcinogenic substances in single or combined concentration of 0.001% by weight by testing or other information available. Is determined by biological tests to be more toxic than any of the following:
 - an acute oral LD_{50} less than 2,500 mg/Kg;
 - an acute dermal LD_{50} less than 4,300 mg/Kg;
 - an acute inhalation LC_{50} less than 10,000 ppm; and
 - an acute aquatic 96-hour LC_{50} less than 500 mg/L.
 - or it can cause illness or death if inhaled, swallowed or absorbed through the skin.

In most cases the hazard characteristics can be determined by referring to the Material Safety Data Sheet for each of the waste material's chemical components. If one component of the waste material is determined to be hazardous then the entire waste is hazardous.

Step 3. Determine if the hazardous waste is an extremely hazardous waste. (See Appendix A)

If the waste is determined to be extremely hazardous, a note to that effect should be made on the Hazardous Waste Transfer Request or hazardous waste label (See Section 5).

- Section 5 -

On Site Management

Labeling

Each container of hazardous waste must be labeled with the words "**Hazardous Waste**". In addition hazardous waste labels must also include the following:

1. **Accumulation start date** - this is the date when the first drop of waste hits the bottom of the container or the hazardous material is declared to be a waste.
2. **Generator's name** - this should be the name of the person who created the waste or the person most knowledgeable about the composition and nature of the waste.
3. **Generator's address** - this is the location of the site where the waste was accumulated. Include the name of the building, department and room where accumulation occurred. (Indicate where the waste can be picked up if other.)
4. **Type of Waste** - Whether the waste is chemical, radioactive or mixed (a combination of the two).
5. **The composition of the waste** - In the case of wastes that are mixtures of chemicals, the percentage of each component should be listed as accurately as can be determined. Components under 0.5% may be listed as "trace".
6. **Physical state of the waste** - gas, liquid or solid.
7. **Waste volume** - Include the container size if the container is only partially filled. (E.g. Quantity: 1 Units: liter)
8. **Hazard warnings** - warning words must clearly indicate the physical and chemical hazards associated with the waste. (E.g., corrosive, ignitable, water reactive, etc.) All hazards associated with the waste must be indicated.
9. **Unique Identification Number** – If HSU Waste Transfer Request forms are used they will have an ID number printed on them. If you are making your own waste tag each item must have its own unique numeric identifier. Check with you stockroom manager for your departments barcode numbers. If there is no barcode string associated with your department, contact RM&SS for a numbering system.

The CNRS hazardous waste labels can be printed using a 6 copy master and an Avery 5164 sticker mailing label. You can contact RM&SS to be supplied with the labels.

Accumulation Time

Hazardous wastes shall not be accumulated at the site of generation/accumulation for longer than 30 days. While the regulations allow an accumulation time of up to 90 days for most wastes generated on campus, it is the policy of RM&SS that wastes must not be accumulated by generators for longer than 30 days.

Hazardous wastes are removed from campus by our contracted hauler every 60-90 days, if a generator holds waste for longer than the 30 day time limit it is possible that the waste may exceed the campus limit of 90 days. The penalties for exceeding the 90 day limit are severe and it is in our best interest not to exceed this limit. A generator may exceed the 30 day limit with prior authorization from the EH&S Coordinator, not to exceed 60 days

Waste Accumulation

Hazardous wastes must be collected and stored in containers that can be sealed, are of adequate strength to hold the waste, and constructed of a material that is compatible with the waste. The containers must be kept in a secured area that is protected from the weather and unauthorized persons. Liquid wastes greater than five gallons in volume must have a secondary containment device in place. Lids must be kept tightly secured except to add or remove waste.

The waste accumulation site must be located so as to provide easy access and a quick route of escape should a spill occur. It is required that medical waste accumulation areas be designated with a sign as describe in the Medical Waste Management Act (Refer to the RM&SS Medical Waste Management Plan) and held in a secured area separate from hazardous waste.

Waste Compatibility

Hazardous wastes must be segregated according to their hazard characteristics. The U.S. Department of Transportation (DOT) utilizes a hazard categorization system that places hazardous materials into nine categories. This system can be used as a starting point to help generators segregate incompatible hazardous wastes, however, additional segregation may be necessary.

The following categories will be subdivided as necessary to allow for complete segregation of hazardous wastes according to their chemical characteristics:

- **Explosives** - All explosive materials shall be stored separately from all other chemical wastes and preferably away from places where people are normally located.
- **Gases** - Gas cylinders must be segregated from all other wastes, may not be stored in an enclosure that does not allow ventilation, in an upright position (unless designed to be stored otherwise), with the valve protection device in place, and in a manner that will prevent them from falling if they are hit or during an earthquake. Oxygen must be stored at least twenty (20) feet from combustible materials.
- **Flammable liquids** - Must be kept clear of oxidizers and all gases. Particular note should be made of possible ignition sources in the accumulation area.
- **Flammable solids** - Generally these may be stored with flammable liquids unless they are water reactive or pyrophoric (air reactive) materials.
- **Oxidizers** - Must be kept clear of flammables.
- **Toxics** - Most wastes are toxic to some degree. Toxic wastes that do not fall into any of the other categories listed here may be accumulated together.
- **Radioactive materials** - Radioactive waste materials are managed by the campus Radiation Safety Officer and must be segregated from hazardous and medical waste streams.
- **Corrosives** - Corrosives may be oxidizing, reducing (flammable) acids and/or bases. All acids must be segregated from bases. Flammable acids, such as glacial acetic acid, must be kept away from oxidizing acids such as nitric acid.
- **Universal wastes** - should be kept separate from other hazardous wastes as these can be accumulated for up to one year. They must be containerized and labeled appropriately

- **The words UNIVERSAL WASTE must be present**
- **The accumulation start date must be present**
- **If you do not wish to comply with accumulation requirements, immediately send all universal waste to RM&SS for disposal or find a E-cycler**

Additional segregation requirements:

- Sulfides and cyanides - Must be kept away from corrosives.
- Asbestos - May be stored with toxics.
- Others - Contact RM&SS at extension 5711 or 3302.

Containment of Hazardous Waste

Departments are responsible for procuring containers needed for waste accumulation and packaging. Environmental Health and Safety supplies a limited number and variety of containers for chemical waste collection. (Contact RM&SS at extension 3302)

Original hazardous materials containers may be reused to collect the same type of waste material. For example, many solvents and acids come packaged in 1-gallon or smaller glass bottles which are suitable for waste collection. Remember, it is important that you only introduce waste into a container that once held a hazardous material that is compatible with the original material.

RM&SS Containers

- 5-gallon steel drum-closed head
- 5-gallon screw top plastic bucket
- 8-gallon polyethylene drum (blue container for photo waste only)
- 30-gallon fiber drum-open head
- 30 gallon lab pack
- 55-gallon fiber drum-open head
- 55-gallon steel drum-open head (specify if to be used for oil filter collection)
- 55-gallon steel drum-closed head (lined and unlined)
- 2.5-gallon poly cubitainers
- 5-gallon poly jerricans or carboys
- 5-gallon fiber hat boxes

It should be noted that many of the above containers may need to be ordered from suppliers so it is advisable for generators to notify RM&SS at least two weeks in advance.

Packaging Procedures

Collect small volumes of waste in your own containers. Volumes larger than 5 gal. may be collected in containers provided by RM&SS. Solid clean-up debris and certain solid wastes e.g., contaminated gloves, contaminated glassware, paper, etc., can be packaged in cardboard boxes lined with two plastic bags. **Keep liquid and solid wastes separate.**

NOTE!

- **Do NOT mix incompatible materials in the same container.**
- **Do NOT put corrosive or reactive chemicals in metal cans.**
- For liquids, fill containers to about 90% of container volume. **Do NOT fill containers to the top.** Leave at least 2 inches of space in 5-gallon liquid waste containers to allow for liquid expansion and pumping. Make sure the caps on all cans and bottles have gaskets and are tightly secured before pick up.

Inspections

Hazardous waste accumulation sites must be inspected weekly. Inspectors must look for the following:

- Leaking or deteriorated containers.
- Damaged or deteriorated labels.
- Containers that are past the 30 day accumulation limit.
- Unauthorized additions to the accumulation inventory.
- Aisles clear of obstructions and wide enough to admit waste handling and/or emergency response equipment.
- Personal Protective Equipment present and in good repair.
- Spill response equipment in place and of proper type and sufficient amount to handle any spill/release.

Compliance and Enforcement

Hazardous substances are those materials that will be, or are being used. Materials that are no longer needed are considered to be **hazardous wastes**. It is the responsibility of each department to comply with all Federal, State and Local regulations regarding the labeling of hazardous materials. RM&SS will facilitate departmental compliance by providing labeling materials as needed. RM&SS will also provide consultation services to assist hazmat users with the labeling process, and will conduct at least quarterly inspections of laboratories and other campus areas where hazardous materials are received, stored, used, and/or disposed of.

Any hazardous substance will be considered **waste** if it meets either, or both, of the following:

- (A) It is mislabeled or not adequately labeled
- (B) It is packaged in deteriorated or damaged containers

If a hazardous substance is identified by RM&SS to meet either (A) or (B) above, an “ATTENTION” sticker will be placed on the item and a notice of correction will be issued to the responsible entity. The responsible entity will then have **two working days** to correctly/adequately label or containerize the substance. Re-inspection will occur within 3 to 7 days depending on the deficiency. In addition, wastes that have exceeded their allowable accumulation time will be tagged similarly and the generator will be required to add this material to their waste inventory and request a pick up within the same time-frame. **Containers that remain out of compliance will be tagged as hazardous waste and collected by RM&SS for final disposal. Generators who repeatedly exceeded accumulation limits may be assessed administrative fees by RM&SS for failure to comply with generator requirements (see sections 5 & 7)**

RM&SS is authorized to protect the campus environment by immediately removing and/or quarantining an unmarked substance if in their judgment, they determine the campus environment is at risk.

Please note: Fines and administrative fees assessed by enforcement agencies for violations of any regulations cited in this memorandum will be charged to the department in which the violation occurs. If a department wishes to contest a citation, RM&SS will attend any administrative hearing to provide guidance and counseling.

- Section 6 -

Universal Wastes

Universal wastes are hazardous wastes that are more common and pose a lower risk to people and the environment than other hazardous wastes. Federal and State regulations identify universal wastes and provide simple rules for handling, recycling, and disposing of them. The regulations, called the “Universal Waste Rule,” are in the California Code of Regulations, title 22, division 4.5, chapter 23 for more information go to:

<http://www.dtsc.ca.gov/HazardousWaste/UniversalWaste/>

All universal wastes are hazardous wastes and, without the new rules, they would have to be managed under the same stringent standards as other hazardous wastes. Also, universal wastes are generated by a wide variety of people rather than by the industrial businesses that primarily generate other hazardous wastes.

Not all waste products of a particular type are hazardous waste and universal waste. For example, waste thermometers that contain mercury are universal wastes but waste thermometers that contain alcohol are neither hazardous waste nor universal waste.

The following items are universal wastes when they are no longer useful or are discarded:

- **Mercury thermostats.** These thermostats contain small glass capsules of mercury, a shiny liquid metal, to make electrical contact. Modern electronic thermostats do not contain mercury.
- **Batteries.** Universal waste batteries include rechargeable nickel-cadmium batteries, silver button batteries, mercury batteries, small sealed lead acid batteries (burglar alarm and emergency light batteries), most alkaline batteries, carbon/zinc batteries, and any other batteries that exhibit a characteristic of a hazardous waste.
 - *NOTE: Spent automotive-type lead acid storage batteries are not universal waste. They are hazardous wastes that require management as specified in CCR 22, Div. 4.5, chap. 16, article 7.*
- **Lamps.** Universal waste lamps include fluorescent tubes, high intensity discharge lamps, sodium vapor lamps, and any other lamps that exhibit a characteristic of a hazardous waste.
- **Non-empty aerosol cans.** The Legislature added non-empty aerosol cans to the list of universal wastes in 2001.
- **Mercury switches.** Two different types of mercury switches are universal wastes:
 - Motor vehicle light switches that contain mercury. Health and Safety Code section 25214.6 designates motor vehicle light switches (automatic hood and trunk light switches) containing mercury as universal wastes once they are removed from vehicles. As of January 2005, vehicles that contain the switches will also be considered hazardous waste until the mercury light switches are removed.

- Non-automotive mercury switches and products that contain them, when they are recycled as scrap metal. These switches include thermostats and tip switches in portable heaters, washing machine out-of-balance switches, silent wall switches, and other mercury-containing switches and products containing them. As of February 9, 2006, all discarded products that contain mercury switches will be universal wastes.
- **Mercury thermometers**, including fever thermometers.
- **Pressure or vacuum gauges** that contain mercury such as U tube manometers, barometers, and sphygmomanometers (blood pressure meters.)
- **Dilators and weighted tubing**. These medical devices contain mercury.
- **Rubber flooring that contains mercury**. Older gymnasium floors that were poured in place to form indoor tracks and gymnastic areas frequently contain mercury.
- **Novelties that contain mercury or mercury batteries** such as some singing greeting cards, flashing athletic shoes, jewelry, and other devices. As of January 1, 2004, all novelties with added mercury are considered hazardous and universal wastes.
- **Mercury gas flow regulators**. These older gas flow regulators are managed exclusively by natural gas utilities.
- **Counterweights and dampers**, including devices that use pouches of high density mercury to dampen shaking on hunting bows and snow skis or to absorb recoil on shotguns.
- **Dental amalgam** tooth filling materials including waste amalgam, bits and pieces from chairside traps, and spent wastewater filters.
- **Consumer electronic devices**. Electronics that exhibit hazardous characteristics. Some examples are cell phones, game consoles, computer disc drives, and computers (ch. 11, art. 3).
- **Cathode ray tubes**. Waste cathode ray tubes (CRTs), such as television picture tubes and nonflat panel computer monitors, are universal wastes with special management standards.
- **Gauges**. Vacuum and pressure gauges that contain mercury, including blood pressure gauges, barometers, and manometers.

To properly manage Universal waste a person must do all of the following:

- Send all universal waste to a facility authorized to collect, recycle or dispose of universal waste.
- Do not dispose of universal waste to the trash.
- Do not accumulate more than 5,000 kilograms of universal waste at any one time.
- Do not store universal waste for longer than one year after generating or receiving the waste.
- Document the length of time you have accumulated universal waste by labeling it with the accumulation start date.
- Label or mark universal wastes, or containers or packages of universal waste, to identify their types.
- Package in a way to prevent leaks and/or spill and clean up any releases such as leaking batteries or broken fluorescent tubes. Repackage the damaged universal waste and manage it as hazardous waste. Additionally, manage any other materials generated, such

as cleanup supplies and contaminated soil, as hazardous wastes if they are identified as hazardous waste.

- Train employees in proper Universal waste management including handling, packaging, storing and labeling the universal waste, as well as how to respond to releases.
 - Note: Though most Universal Waste disposal is handled by RM&SS, it is crucial that the labeling, storing, and packaging requirements be met by the generator, or they cannot be collected. For more information contact the EH&S Coordinator at x3302.
 - Many items can be disposed of in E-cyclers located around campus. Please contact the sustainability office for more information at x5889

- Section 7 -

Requesting a Hazardous Waste Pick-up

Hazardous Waste Transfer Request Form

The Hazardous Waste Transfer Request form developed and supplied by RM&SS is a four part form that both satisfies the labeling requirements promulgated in Title 22 of the California Code of Regulations and provides a mechanism for generators to request that their waste be collected by RM&SS. To use the form generators should follow these steps:

Step 1. Fill in all of the applicable spaces on the form following the directions on the reverse side of the form.

- The ACCUMULATION START DATE must be the date that waste is first introduced into the container or the material is determined to be waste.
- WASTE GENERATOR is the name of the person who generated the waste or is responsible for the waste. Provide the name of the department the generator is associated with and the building name and room number where the waste can be collected by RM&SS.
- TYPE OF WASTE will help RM&SS to segregate the waste as chemical, radiological or mixed.
- The LIST COMPONENTS List the chemical(s) that make up the waste and the percentage composition. Do not list reaction products unless you are sure they are present and know the percentages.
- PHYSICAL CHARACTERISTICS provides volume information and whether the waste is a solid, liquid or gas. Volume information must include the quantity (a number) and the units (grams, pounds, liters, etc.). Use the container size for volume rather than the amount of material in the container.
- The HAZARD CHARACTERISTICS section provides warnings about the hazards associated with the waste.

Step 2. Sign and date the form and remove the white and pink copies. The yellow and card copies should then be attached to the waste container. The white copy should be sent to RM&SS SBS 411” via campus mail. This serves to notify RM&SS that your waste is ready for pick up. The pink copy may be retained for the generator’s records or destroyed and discarded if desired.

Step 3. Enter all waste information from the tag to the inventory database, including Tag number

Step 4. Manage the waste on site according to the requirements described above until RM&SS can collect it. Turnaround times vary according to workloads but are usually not more than 5 days.

Generators in the **CNRS** will be using the barcode system and an Avery waste label. All generators of waste are required to enter their inventory into an electronic database. RM&SS will assist generators in accessing this database and learning to use it. Waste will not be picked up if there is missing information on the waste label, there is no barcode, containers are leaky or the information has not been entered electronically.

A screenshot of the electronic inventory with containers to be picked up can be emailed to RM&SS as a pick-up request. Alternatively, a list of barcode numbers may be sent to RM&SS. Staff can then login to the database to match up #'s with containers and verify data has been entered. Containers not in the system will not be removed. Email requests to Sabrina.Zink@Humboldt.edu.

- Section 8 -

Spill Response

Emergency Response Training

All persons who generate hazardous wastes must be trained in emergency response procedures to at least the First Responder Awareness level (FRA). First responders at the awareness level are individuals who are likely to witness or discover a hazardous substance release and who have been trained to initiate an emergency response sequence by notifying the proper authorities of the release. They would take no further action beyond notifying the authorities of the release. First responders at the awareness level shall have sufficient training or have had sufficient experience to objectively demonstrate competency in the following areas:

1. An understanding of what hazardous substances are, and the risks associated with them in an incident.
2. An understanding of the potential outcomes associated with an emergency created when hazardous substances are present.
3. The ability to recognize the presence of hazardous substances in an emergency.
4. The ability to identify the hazardous substances, if possible.
5. An understanding of the role of the first responder awareness individual in the employer's emergency response plan (including site security and control), and the U. S. Department of Transportation's Emergency Response Guidebook.
6. The ability to realize the need for additional resources, and to make appropriate notifications to the communication center.

Persons who are responsible for management of hazardous waste accumulation sites must be trained to the First Responder Operations (FRO) level. First responders at the operations level are individuals who respond to releases or potential releases of hazardous substances as part of the initial response to the site for the purpose of protecting nearby persons, property, or the environment from the effects of the release. They are trained to respond in a defensive fashion without actually trying to stop the release. Their function is to contain the release from a safe distance, keep it from spreading, and prevent exposures. First responders at the operations level shall have received at least eight hours of training or have had sufficient experience to objectively demonstrate competency in the following areas in addition to those listed for the awareness level; and the employer shall so certify:

1. Knowledge of the basic hazard and risk assessment techniques.
2. Know how to select and use proper PPE provided to the first responder operational level.
3. An understanding of basic hazardous materials terms.
4. Know how to perform basic control, containment, and/or confinement operations and rescue injured or contaminated persons within the capabilities of the resources and PPE available with their unit.
5. Know how to implement basic equipment, victim, and rescue personnel decontamination procedures.
6. An understanding of the relevant standard operating procedures and termination procedures.

Emergency Response Facilities

Hazardous waste accumulation sites must have, at a minimum, the following:

- A secure area that will exclude unauthorized persons from accessing the waste.
- A communications device to call for assistance in the event of an emergency.
- Spill containment and absorbent materials sufficient to control any release of the waste materials.
- Adequate aisle space to provide access to any waste container for emergency responders and their equipment.
- Proper personal protective equipment to protect personnel against any of the waste materials in question.

Emergency Response Planning

An emergency response plan should be developed to address any size and type release that may occur at the accumulation site. The complexity of the plan should be tailored to the types and volumes of waste handled at the site. The following items should be considered when writing the plan:

- Pre-emergency planning & training specific to the wastes on site.
- Levels of Emergency Response
- Lines of Authority & Communication
- Site Layout & Prevailing Weather Conditions
- Personnel Roles
- Emergency Response Procedures (SOP's)
- Procedures for Reporting Incidents to Government Agencies
- Hazards Associated With Use of, and Emergency Response to, Select Agents and/or Toxins
- Planning & Coordination With Outside Parties
- Site Security & Control
- Evacuation Routes & Procedures / Safe Distances & Places of Refuge
- Decontamination
- Emergency Medical Treatment & First Aid
- Critique of Incident Response & Follow-up
- Personal Protective & Emergency Equipment

SIN

During any hazardous materials emergency **REMEMBER TO S.I.N.!**

Safety - Yours and others, first, last and always.

Isolate and Deny Entry - Move yourself and everyone out of the spill area and close doors.

Notify - **CALL UNIVERSITY POLICE 911** (Do not call RM&SS!)

- Section 9 -

Hazardous Waste Minimization

Printed on each California hazardous waste shipping manifest is a certification statement which reads:

*If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of the waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; **OR**, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.*

Humboldt State University yearly produces hazardous waste just below the large quantity generator threshold. This means that we are required to make *a good faith effort to minimize waste generation*. At the CSU system level the CSU system-wide hazardous waste contract addresses, in part, this mandate by requiring the contracted waste hauler to select disposal sites that give priority to recycling or thermal destruction methods first and excluding, when possible, land disposal as an option.

RM&SS provides support to departments to assist them in their waste minimization efforts. Support may be in the form of consultations regarding processes, periodic bulletins or notices indicating current waste production levels, meetings with waste generators to discuss specific waste streams and ways to reduce their volumes, etc.

Waste minimization is a dynamic, ongoing process that involves the entire campus community. It is one of the most important facets of a complete hazardous waste management program.

To promote minimization, generators should do the following:

- Never order more of a hazardous material than you will use in normal operations during a one or two year period.
- Do not allow materials to go past their expiration date.
- Make sure hazardous materials are properly containerized and labeled.
- Substitute low hazard materials for high hazard materials whenever possible.
- Microscale operations when possible.
- Plan operations to prevent waste or incorrect use of materials.
- Donate your useable, but unwanted or unneeded chemicals to the surplus inventory at <https://humboldt.edu/forms/node/600>
- Keep you hazardous materials inventories up to date so that others may see what you have and request to borrow versus ordering more, many locations have more than they need.
- Others?

- Section 10 -

Unknown/Unidentified Hazardous Wastes

Occasionally a hazardous waste is “discovered” that is unlabeled and its history is untraceable. On other occasions the label has become deteriorated or damaged and is unreadable. Whatever the cause, when a waste material loses its identity the waste is designated an “unknown” and must be handled as though it possesses all of the hazard characteristics until demonstrated otherwise. In other words, the waste is assumed to be ignitable, corrosive, reactive and toxic.

In some cases a preliminary examination may be able to give the hazardous waste generator some clues as to the hazard characteristics of the waste but caution must be taken until a firm characteristic profile has been obtained.

The disposal of “unknown’s” is expensive and risky. The ideal situation is to make sure wastes do not lose their identity.

To prevent a hazardous material from becoming an unknown waste, it is prudent to adhere to the following guidelines:

- Check chemical inventories regularly for deteriorated labels or containers. Replace labels before they become unreadable.
- Rotate your inventory so that older materials are used first.
- Request a hazardous waste pickup for expired or unwanted chemicals.
- Clear out and request pickup for old “stashes” of chemicals that have not been used for long periods of time.
- **Never add waste to a container until a label has been affixed and all fields are filled out-this practice will ensure compliance with EPA regulations and avoid lost chemical identity.**

If you do discover an unidentified material and you suspect that it might be hazardous, contact Environmental Health and Safety at extension 3302. Do not attempt to move or handle the material unless you are sure that it is safe to do so. A hazardous materials technician will make the hazard/risk determination and a pickup will be arranged.

- Section 11 -

Hazardous Wastes of Concern

In response to security concerns following the September 11, 2001 terrorist attack, legislation was passed [Senate Bill No. 489 (2001-2002 Reg. Session) Romero] that amended and enacted laws to increase the security of hazardous wastes. SB 489 amended Health and Safety Code §25112.5 and added Article 6.6 beginning with § 25169.5. The new law strengthens the security of hazardous waste that can be intentionally and effectively used to harm the public and or the environment. These wastes are called Hazardous Wastes of Concern (HWC). The Department of Toxic Substances Control (DTSC) adopted emergency regulations implementing SB 489 that apply to any person handling HWC. The emergency regulations became effective on July 10, 2003.

- Any person handling HWC who discovers that a reportable quantity of a HWC is missing during transportation or storage must notify DTSC by phone within 24 hours and submit a written report within five days.
- Transporters and treatment, storage and disposal facilities (TSDFs) that handle HWC must submit a Disclosure Statement and fingerprints for a criminal background check unless the corporation is exempt.
- Transporters and TSDFs that handle HWC must submit a Disclosure Statement with a new or renewal application by and after January 1, 2004.
- A HWC is a hazardous waste that is identified with one of the following hazard divisions under the Code of Federal Regulations, Title 49 (49 C.F.R.):
 - An explosive material, hazard division 1.1, 1.2, or 1.3;
 - A poisonous material, hazard division 6.1, packing group I or II; or
 - A poisonous gas, hazard division 2.3 (Cal. Code Regs., Title 22, 66261.111(a)).
- DOT Laws and regulations require that any person packaging and shipping hazardous materials, including hazardous wastes, must have completed training that enables them to properly identify, document, package and handle the hazardous materials they are offering for shipment. To determine if a hazardous waste is a HWC:
 - The generator or generator's trained employees must compare the DOT hazard classes of their hazardous wastes with those listed in the HWC regulations, and identify HWC for enhanced tracking.
 - Further, the generator must determine if the waste exhibits HWC characteristics by testing the waste according to the approved methods or applying knowledge of the hazards characteristic of the waste in light of the processes that the materials have undergone.
- Transporters and TSDFs must check the information on the manifest in Box 11 (U.S. DOT Description), the additional information in Box J (Additional Descriptions for Materials Listed Above), and the label and markings on the container. If in doubt, the transporter and TSDFs should verify the information with the generator of the waste.
- Shipping names, hazard divisions, and packing groups are in 49 C.F.R. The Hazardous Materials Table is in 49 C.F.R Section 172.101. DTSC has prepared an excerpt with the names of the materials listed in the hazard divisions.

-The excerpt is available as a complete list on DTSC's Web site at www.dtsc.ca.gov/LawsRegulationsPolicies/HWC/hwm_regs_sb489_hwc-list.pdf or call 800-728-6942.

- Missing HWC is defined as lost, stolen, or disappeared (Cal.Code Regs., Title 22, §66261.111(b)). Any person handling HWC is required to report missing HWC when the missing waste is of a reportable quantity or a reportable difference in the type of wastes received by the transporter or TSDF, as compared to what is described on the manifest.

Reportable quantities:

- Bulk waste—a change of more than three percent in weight or volume.
- Containerized waste—a change in piece count, such as a difference of one drum in a truckload.
- Reportable differences in type are obvious differences that can be discovered by sight, inspection, or waste analysis. Examples of differences in type include waste caustic soda substituted for sodium cyanide, or waste containing hazardous constituents not reported on the manifest that would change the hazard class, the shipping name or waste code. Other examples: mineral spirits substituted for waste carbon tetrachloride; or soil substituted for any reactive or poisonous solid, etc.

To Report Missing HWC Call EHS at ext. 5711

Appendix A

Extremely hazardous wastes:

General categories of listed chemicals

Arsenic and arsenic compounds
Beryllium and beryllium compounds
Boranes (B_xH_y)
Cadmium and cadmium compounds
Cyanide, cyanide salts and cyano compounds
Dioxin compounds
Halogenated silanes
Hypochlorite compounds
Lead and organo-lead compounds
Mercury and mercury compounds
Metal hydrides
Pesticides
Platinum compounds
Polychlorinated Biphenyls (PCBs)
Selenium and selenium compounds
Thallium and thallium compounds
Specifically listed Chemicals
acetyl chloride
acetyl thiourea
2-acetylaminofluorene
acrolein
acrylonitrile
adiponitrile
alkyl aluminum compounds
allyl alcohol
allyl trichlorosilane
aluminum chloride (anhydrous)
aluminum diethyl monochloride
aluminum phosphide
4-aminodiphenyl
5-(aminomethyl)-3-isoxazol
5-(aminomethyl)-3-isoxazolone
aminopyridine (2- and 4-)
N-(aminothioxomethyl) acetamide
ammonium bifluoride
ammonium picrate
ammonium vanadate
antimony pentachloride
antimony pentafluoride
arsenic and arsenic compounds
aziridine
benzene hexachloride

benzenephosphorous dichloride
benzenethiol
benzidine and salts
1,4-benzoquinone
benzotrifluoride
benzoyl chloride
benzyl chloride
benzyl chlorocarbonate
benzyl chloroformate
beryllium and beryllium compounds
biphenyl
boranes
boron trichloride
boron trifluoride
bromine
bromine pentafluoride
bromine trifluoride
3-bromo-1-propyne
1-bromo-2-propanone
bromoacetone
bromomethane
brucine
2-butenal
n-butyllithium and isomers
cacodylic acid, esters and salts
cadmium and cadmium compounds
calcium
calcium carbide
calcium hydride
calcium hypochlorite
calcium oxychloride
calcium phosphide
carbon disulfide
carbonic dichloride
carbonyl chloride
chlorine
chlorine dioxide
chlorine pentafluoride
chlorine trifluoride
chloroacetaldehyde
a-chloroacetophenone
chloroacetyl chloride
p-chloroaniline
4-chlorobenzenamine
o-chlorobenzylidene malonitrile
chlorochromic anhydride

chloromethylbenzene
bis (chloromethyl) ether
o-chlorophenyl thioiurea
chloropicrin
3-chloropropionitrile
chlorosulfonic acid
chromyl chloride
cyanide, cyanide salts
cyano compounds
cycloheximide
2-cyclohexyl-4,6-dinitrophenol
3,3-dichlorobenzidine and salts
dichloromethyl ether
2,4-dichlorophenoxyacetic acid
O,O-diethyl-O-pyrazinyl phosphorothioate
diethyl-p-nitrophenyl phosphate
O,O-diethyl-S-(isopropylthiomethyl)phosphorodithioate
diethylaluminum chloride
diethylzinc
difluorophosphoric acid
diglycidyl ether
diisopropylfluorophosphate
a,a-dimethyl benzeneethanamine
dimethylaminoazobenzene
dimethylhydrazine
dimethyl nitrosoamine
a,a-dimethylphenethylamine
dimethyl sulfate
dimethyl sulfide
dinitrobenzene
4,6-dinitro cresol and salts
dinitrophenol
dioxin compounds
diphenyl
diphosphoric acid, tetraethylester
disulfuryl chloride
epinephrine
bis (2,3-epoxypropyl) ether
ethanedinitrile
ethylchlorocarbonate
ethylchloroformate
ethyleneimine
ethylmercaptan
ethylzinc
fluorine
2-fluoroacetamide

fluoroacetanilide
fluoroacetic acid and salts
fluoroboric acid
fluorosulfonic acid
fuming sulfuric acid
halogenated silanes
hexaethyl tetraphosphate
hydrazine
hydrazinecarbothioamide
hydrobromic acid
hydrochloric acid
hydrocyanic acid
hydrofluoric acid
hydrogen phosphide
hydrogen sulfide
hydroiodic acid
1-naphthalenylthiourea
naphthylamine (a and b)
a-naphthylthiourea
nickel carbonyl
nicotine and salts
nitric oxide
p-nitroaniline
4-nitrobenzenamine
nitrobenzene
nitrobenzol
4-nitrobiphenyl
nitrochloroform
nitrogen dioxide
nitroglycerine
nitrophenol (o,m,p)
N-nitrosodimethylamine
N-nitrosomethylvinylamine
nitrotrichloromethane
octamethyl-diphosphoramidate
octamethylpyrophosphoramidate
oleum (fuming sulfuric acid)
osmium tetroxide
oxy bis(chloromethane)
oxygen difluoride
perchloromethyl mercaptan
pesticides
phenylbenzene
phenylthiourea
phosgene
phosphine

phosphoric acid, diethyl-4-nitrophenyl ester
phosphoric chloride
phosphoric sulfide
phosphorofluoric acid, bis(1-methylethyl) ester
phosphorus (white or yellow)
phosphorus oxybromide
phosphorus oxychloride
phosphorus pentachloride
phosphorus pentasulfide
phosphorus sesquisulfide
phosphorous tribromide
phosphorous trichloride
phosphoryl bromide
phosphoryl chloride
platinum compounds
polychlorinated biphenyls
potassium
potassium bifluoride
potassium hydride
propanenitrile
1,2,3-propanetriol, trinitrate
propargyl alcohol
propargyl bromide
2-propen-1-ol
2-propenal
b-propiolacetone
1,2-propylenimine
2-propyn-1-ol
sulfonyl fluoride
sulfur chloride
sulfur mustard
sulfur oxychloride
sulfur pentafluoride
sulfuryl chloride
sulfuryl fluoride
tellurium hexafluoride
tetraethyldithiopyrophosphate
tetraethyl pyrophosphate
tetramethyl succinonitrile
tetranitromethane
tetrphosphorus trisulfide
thallium and thallium compounds
thiocarbonyl chloride
thionyl chloride
thiophenol
thiophosgene

thiosemicarbazide
titanium tetrachloride
toluene-2,4-diisocyanate
trichloroborane
trichloromethanethiol
trichloromethylsulfenylchloride
trichloronitromethane
trifluoromethylbenzene
2,4,6-trinitrophenol, ammonium salt
vanadium oxides
vinyl chloride
zinc phosphide
zirconium chlorides

Appendix B

Title 22 Listed Hazardous Wastes - P Codes

Acetaldehyde, chloro-
Acetamide, N-(aminothioxomethyl)-
Acetamide, 2-fluoro-
Acetic acid, fluoro-, sodium salt
1-Acetyl-2-thiourea
Acrolein
Aldicarb
Aldicarb sulfone
Aldrin
Allyl alcohol
Aluminum phosphide (R,T)
5-(Aminomethyl)-3-isoxazolol
4-Aminopyridine
Ammonium picrate (R)
Ammonium vanadate
Argentate (1-), bis (cyano-C)-, potassium
Arsenic acid H₃AsO₄
Arsenic oxide As₂O₃
Arsenic oxide As₂O₅
Arsenic pentoxide
Arsenic trioxide
Arsine, diethyl
Arsonous dichloride, phenyl-
Aziridine
Aziridine, 2-methyl-
Barium cyanide
Benzenamine, 4-chloro-
Benzenamine, 4-nitro-
Benzene, (chloromethyl)-
1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-
Benzeneethanamine, alpha,alpha-dimethyl-
Benzenethiol
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-trimethyl-pyrrolo [2,3-b]indol-
5-yl methylcarbamate ester (1:1).
2H-1-Benzopyran-2-one,4-hydroxy-3-(3-oxo-1-phenylbutyl)-, and salts when present at
concentrations greater than 0.3
Benzyl chloride
Beryllium powder
Bromoacetone
Brucine
2-Butanone, 3,3-dimethyl-1-(methylthio)-, o-[(methylamino)carbonyl] oxime

Calcium cyanide Ca(CN)
 Carbamic acid, [(dibutylamino)- thio]methyl-,2,3-dihydro-2,2-dimethyl- 7-benzofuranyl ester
 Carbamic acid, dimethyl-,1- [(dimethyl-amino)carbonyl]-5-methyl-1H-pyrazol-3-yl ester.
 Carbamic acid, dimethyl-, 3-methyl-1-(1-methylethyl)-1H-pyrazol-5-yl ester.
 Carbamic acid, methyl-, 3-methylphenyl ester.
 Carbofuran
 Carbon disulfide
 Carbonic dichloride
 Carbosulfan
 Chloroacetaldehyde
 p-Chloroaniline
 1-(o-Chlorophenyl) thiourea
 3-Chloropropionitrile
 Copper cyanide Cu(CN)
 m-Cumenyl methylcarbamate.
 Cyanides (soluble cyanide salts), not otherwise specified
 Cyanogen
 Cyanogen chloride (CN)Cl
 2-Cyclohexyl-4,6-dinitrophenol
 Dichloromethyl ether
 Dichlorophenylarsine
 Dieldrin
 Diethylarsine
 Diethyl-p-nitrophenyl phosphate
 O,O-Diethyl O-pyrazinyl phosphorothioate
 Diisopropyl fluorophosphate (DFP)
 1,4,5,8-Dimethanonaphthalene,1,2,3,4-,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-,(1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)-1,4,5,8-Dimethanonaphthalene,1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-,(1alpha,4alpha,4abeta,5beta,8beta,8abeta)-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-,(1alpha,2beta,2alpha,3beta,6beta,6alpha,7beta,7alpha)-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-,(1alpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta,7alpha)-, and metabolites
 Dimetilan
 Dimethoate
 alpha, alpha-Dimethylphenethylamine
 4,6-Dinitro-o-cresol and salts
 2,4-Dinitrophenol
 Dinoseb
 Diphosphoramidate, octamethyl-
 Diphosphoric acid, tetraethyl ester
 Disulfoton
 Dithiobiuret
 1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-[(methylamino)- carbonyl]oxime.
 Endosulfan

Endothall
 Endrin
 Endrin, and metabolites
 Epinephrine
 Ethanedinitrile
 Ethanimidithioic acid, N-[(methylamino) carbonyl] oxy]-, methyl ester
 Ethanimidithioc acid, 2-(dimethylamino)- N-[[[(methylamino) carbonyl]oxy]-2-oxo-, methyl ester.
 Ethyl cyanide
 Ethyleneimine
 Famphur
 Fluorine
 Fluoroacetamide
 Fluoroacetic acid, sodium salt
 Formetanate hydrochloride.
 Formparanate
 Fulminic acid, mercury (2+) salt (R,T)
 Heptachlor
 Hexaethyl tetraphosphate
 Hydrazinecarbothioamide
 Hydrazine, methyl-
 Hydrocyanic acid
 Hydrogen cyanide
 Hydrogen phosphide
 Isodrin
 Isolan
 3-Isopropylphenyl N-methylcarbamate.
 3(2H)-Isoxazolone, 5-(aminomethyl)-
 Manganese, bis(dimethylcarbamo-dithioato-S,S')-,
 Manganese dimethyldithiocarbamate.
 Mercury, (acetato-O)phenyl-
 Mercury fulminate (R,T)
 Methanamine, N-methyl-N-nitroso-
 Methane, isocyanato-
 Methane, oxybis[chloro-
 Methane, tetranitro- (R)
 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]-6,9-Methano-2,4,3-benzodioxathiepen,6,7,8,9,10,10--hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide 4,7-Methano-1H-indene, 1,4,5,6,7,8,8- heptachloro-3a,4,7,7a-tetrahydro-
 Methiocarb
 Methomyl
 Methyl hydrazine

Methyl isocyanate
 2-Methylactonitrile
 Methyl parathion
 Metolcarb
 Mexacarbate
 alpha-Naphthylthiourea
 Nickel carbonyl, Ni(CO)₄, (T-4)-
 Nickel cyanide Ni(CN)₂
 Nicotine and salts
 Nitric oxide
 p-Nitroaniline
 Nitrogen dioxide
 Nitrogen oxide NO
 Nitrogen oxide NO₂
 Nitroglycerine (R)
 N-Nitrosodimethylamine
 N-Nitrosomethylvinylamine
 Octamethylpyrophosphoramidate
 Osmium oxide OsO₃, (T-4)-
 Osmium tetroxide
 7-Oxabicyclo[2.2.1]heptane-2,3- dicarboxylic acid
 Oxamyl
 Parathion
 Phenol, 2-cyclohexyl-4,6-dinitro-
 Phenol, 2,4-dinitro-
 Phenol, 2-methyl-4,6-dinitro- and salts
 Phenol, 2-(1-methylpropyl)-4,6-dinitro-
 Phenol, 2,4,6-trinitro-, ammonium salt (R)
 Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester).
 Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate
 Phenol, 3-(1-methylethyl)-, methyl carbamate.
 Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate
 Phenylmercury acetate
 Phenylthiourea
 Phorate
 Phosgene
 Phosphine
 Phosphoric acid, diethyl 4-nitrophenylester
 Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester
 Phosphorodithioic acid, O,O-diethyl S- [(ethylthio)methyl] ester
 Phosphorodithioic acid, O,O-dimethyl S-[2--(methylamino)-2-oxoethyl] ester
 Phosphorofluoridic acid, bis(1- methylethyl) ester
 Phosphorothioic acid, O,O-diethyl 0- (4-nitrophenyl) ester
 Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
 Phosphorothioic acid, 0-[4- [(dimethylami-- no) sulfonyl]phenyl] O,O-dimethyl ester
 Phosphorothioic acid, O,O-dimethyl 0-(4-nitrophenyl) ester

Physostigmine.
Physostigmine salicylate.
Plumbane, tetraethyl-
Potassium cyanide K(CN)
Potassium silver cyanide
Promecarb
Propanal, 2-methyl-2-(methylthio)-, 0- [(methylamino)carbonyl]oxime
Propanal, 2-methyl-2-(methyl-sulfonyl)-, O-[(methylamino)carbonyl] oxime.
Propanenitrile
Propanenitrile, 3-chloro-
Propanenitrile, 2-hydroxy-2-methyl-
1,2,3-Propanetriol, trinitrate (R)
2-Propanone, 1-bromo-
Propargyl alcohol
2-Propenal
2-Propen-1-ol
1,2-Propylenimine
2-Propyn-1-ol
4-Pyridinamine
Pyridine, 3-(1-methyl-2- pyrrolidinyl)-, (S) and salts
Pyrrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a- hexahydro-1,3a,8-trimethyl-, methylcarbamate
(ester), (3aS-cis)-.
Selenious acid, dithallium (1+) salt
Selenourea
Silver cyanide Ag(CN)
Sodium azide
Sodium cyanide Na(CN)
Strychnidin-10-one, and salts
Strychnidin-10-one, 2,3-dimethoxy-
Strychnine and salts
Sulfuric acid, dithallium (1+) salt
Tetraethyldithiopyrophosphate
Tetraethyl lead
Tetraethyl pyrophosphate
Tetranitromethane (R)
Tetraphosphoric acid, hexaethyl ester
Thallic oxide
Thallium oxide Tl₂O₃
Thallium (I) selenite
Thallium (I) sulfate
Thiodiphosphoric acid, tetraethyl ester
Thiofanox
Thioimidodicarbonic diamide [(H₂N)C(S)]₂NH
Thiophenol
Thiosemicarbazide
Thiourea, (2-chlorophenyl)-

Thiourea, 1-naphthalenyl-
Thiourea, phenyl-
Tirpate
Toxaphene
Trichloromethanethiol
Vanadic acid, ammonium salt
Vanadium oxide V₂O₅
Vanadium pentoxide
Vinylamine, N-methyl-N-nitroso-
Warfarin, and salts, when present at concentrations greater than 0.3%
Zinc, bis(dimethylcarbamo-dithioato- S,S')-,
Zinc cyanide Zn(CN)₂
Zinc phosphide Zn₃P₂, when present at concentrations greater than 10% (R,T)
Ziram

Title 22 Listed Hazardous Wastes - U Codes

A2213
Acetaldehyde (I)
Acetaldehyde, trichloro-
Acetamide, N-(4-ethoxyphenyl)-
Acetamide, N-9H-fluoren-2-yl
Acetic acid, (2,4-dichlorophenoxy)-, salts and esters
Acetic acid, ethyl ester (I)
Acetic acid, lead (2+) salt
Acetic acid, thallium (1+) salt
Acetic acid, (2,4,5-trichlorophenoxy)-
Acetone (I)
Acetonitrile (I,T)
Acetophenone
2-Acetylaminofluorene
Acetyl chloride (C,R,T)
Acrylamide
Acrylic acid (I)
Acrylonitrile
Amitrole
Aniline (I,T)
Arsinic acid, dimethyl-
Auramine
Azaserine
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)]
Barban.
Bendiocarb.
Bendiocarb phenol.
Benomyl.
Benz[j]aceanthrylene, 1,2-dihydro-3--methyl-

Benz[c]acridine
 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-2-methyl-, hydrochloride
 Benzenamine, N,N-dimethyl-4-(phenylazo)-
 Benzenamine, 2-methyl-
 Benzenamine, 4-methyl-
 Benzenamine, 4,4'-methylenebis[2-chloro-
 Benzenamine, 2-methyl-, hydrochloride
 Benzenamine, 2-methyl-5-nitro-
 Benzene (I,T)
 Benzeneacetic acid, 4-chloro-alpha- (4-chlorophenyl)- alpha-hydroxy,ethyl ester
 Benzene, 1-bromo-4-phenoxy-
 Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-
 Benzene, chloro-
 Benzenediamine, ar-methyl-
 1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester
 1,2-Benzenedicarboxylic acid, dibutylester
 1,2-Benzenedicarboxylic acid, diethylester
 1,2-Benzenedicarboxylic acid, dimethylester
 1,2-Benzenedicarboxylic acid, dioctylester
 Benzene, 1,2-dichloro-
 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)
 1,3-Benzenediol
 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-
 Benzenesulfonic acid chloride (C,R)
 Benzenesulfonyl chloride (C,R)
 Benzene, 1,2,4,5-tetrachloro-
 Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro]-

Benzene, 1,1'-(2,2,2-trichloroethylidene)bis [4-methoxy]-
 Benzene, (trichloromethyl)-
 Benzene, 1,3,5-trinitro-
 Benzidine
 1,2-Benzisothiazol-3-(2H)-one, 1,1- dioxide and salts
 1,3-Benzodioxole, 5-(2-propenyl)-
 1,3-Benzodioxole, 5-(1-propenyl)-
 1,3-Benzodioxole, 5-propyl-
 Benzo[rs]pentaphene
 2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, and salts, when present at concentrations of 0.3% or less
 Benzo[a]pyrene
 1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate.
 1,3-Benzodioxol-4-ol, 2,2-dimethyl-,
 7-Benzofuranol, 2-3-dihydro-2,2- dimethylp-
 Benzoquinone
 Benzotrichloride (C,R,T)
 2,2'-Bioxirane
 [1,1'-Biphenyl]-4,4'-diamine
 [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-
 [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-
 [1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-
 Bromoform
 4-Bromophenyl phenyl ether
 1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
 1-Butanamine, N-butyl-N-nitroso-
 1-Butanol (I)
 2-Butanone (I,T)
 2-Butanone, peroxide (R,T)
 2-Butenal
 2-Butene, 1,4-dichloro- (I,T)
 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-[1 alpha (Z),7(2S*, 3R*), 7aalpha]-
 n-Butyl alcohol (I)
 Cacodylic acid
 Calcium chromate
 Carbamic acid, 1H-benzimidazol-2-yl, methyl ester.
 Carbamic acid, [1-[(butylamino)carbonyl]- 1H-benzimidazol-2-yl]-, methyl ester.
 Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butynyl ester.
 Carbamic acid, ethyl ester
 Carbamic acid, methylnitroso-, ethyl ester
 Carbamic acid, phenyl-, 1-methylethyl ester.
 Carbamic acid, [1,2-phenylenebis (iminocarbonothioyl)]bis-, dimethylester.
 Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester.
 Carbamothioic acid, dipropyl-, S- (phenylmethyl) ester.

Carbamic chloride, dimethyl-
Carbamodithioic acid, 1,2-ethanediybis-, salts and esters
Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester
Carbaryl.
Carbendazim.
Carbofuran phenol.
Carbonic acid, dithallium (1+) salt
Carbonic difluoride
Carbonochloridic acid, methyl ester (I,T)
Carbon oxyfluoride (R,T)
Carbon tetrachloride
Chloral
Chlorambucil
Chlordane, alpha and gamma isomers
Chlornaphazine
Chlorobenzene
Chlorobenzilate
p-Chloro-m-cresol
2-Chloroethyl vinyl ether
Chloroform
Chloromethyl methyl ether
beta-Chloronaphthalene
o-Chlorophenol
4-Chloro-o-toluidine, hydrochloride
Chromic acid HCr₂O₄, calcium salt
Chrysene
Creosote
Cresol (Cresylic acid)
Crotonaldehyde
Cumene (I)
Cyanogen bromide (CN)Br
2,5-Cyclohexadiene-1, 4-dione
Cyclohexane (I)
Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha, 2alpha, 3beta, 4alpha, 5alpha, 6beta)-
Cyclohexanone (I)
1,3-Cyclopentadiene, 1,2,3,4,5,5- hexachloro-
Cyclophosphamide
2,4-D, salts and esters
Daunomycin
DDD
DDT
Diallate
Dibenz[a,h]anthracene
Dibenzo[a,i]pyrene
1,2-Dibromo-3-chloropropane

Dibutyl phthalate
o-Dichlorobenzene
m-Dichlorobenzene
p-Dichlorobenzene
3,3'-Dichlorobenzidine
1,4-Dichloro-2-butene (I,T)
Dichlorodifluoromethane
1,1-Dichloroethylene
1,2-Dichloroethylene
Dichloroethyl ether
Dichloroisopropyl ether
Dichloromethoxy ethane
2,4-Dichlorophenol
2,6-Dichlorophenol
1,3-Dichloropropene
1,2:3,4-Diepoxybutane (I,T)
1,4-Diethyleneoxide
Diethylene glycol, dicarbamate.
Diethylhexyl phthalate
N,N'-Diethylhydrazine
O,O-Diethyl-S-methyl dithiophosphate
Diethyl phthalate
Diethylstilbestrol
Dihydrosafrole
3,3'-Dimethoxybenzidine
Dimethylamine (I)
p-Dimethylaminoazobenzene
7,12-Dimethylbenz[a]anthracene
3,3'-Dimethylbenzidine
alpha,alpha-Dimethylbenzylhydroperoxide (R)
Dimethylcarbamoyl chloride
1,1-Dimethylhydrazine
1,2-Dimethylhydrazine
2,4-Dimethylphenol
Dimethyl phthalate
Dimethyl sulfate
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Di-n-octyl phthalate
1,4-Dioxane
1,2-Diphenylhydrazine
Dipropylamine (I)
Di-n-propylnitrosamine
Epichlorohydrin
Ethanal (I)
Ethanamine, N-ethyl-N-nitroso-

Ethanamine, N,N-diethyl-
 1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-
 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-
 Ethanethioamide
 Ethane, 1,1,1- trichloro-
 Ethane, 1,1,2-trichloro-
 Ethanimidothioic acid, N,N'-[thiobis [(methylimino)carbonyloxy]]bis-, dimethyl ester
 Ethanimidothioic acid, 2-(dimethylamino)- N-hydroxy-2-oxo-, 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-
 Ethyl acetate (I)
 Ethyl acrylate (I)
 Ethyl carbamate (urethane)
 Ethylenebisdithiocarbamic acid, salts and esters
 Ethylene dibromide
 Ethylene dichloride
 Ethylene glycol monoethyl ether
 Ethylene oxide (I,T)
 Ethylene thiourea
 Ethyl ether (I)
 Ethylidene dichloride
 Ethyl methacrylate
 Ethyl methanesulfonate
 Fluoranthene
 Formaldehyde
 Formic acid (C,T)
 Furan (I)
 2-Furancarboxaldehyde (I)
 2,5-Furandione

Furan, tetrahydro- (I)
Furfural (I)
Furfuran (I)
Glucopyranose, 2-deoxy-2(3-methyl-3- nitrosoureido)-, DD-
Glucose, 2-deoxy-2- [c(methylnitrosoamino)- carbonyl]amino]-
Glycidylaldehyde
Guanidine, N-methyl-N'-nitro-N-nitroso-
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Hexachlorophene
Hexachloropropene
Hydrazine (R,T)
Hydrazine, 1,2-diethyl-
Hydrazine, 1,1-dimethyl-
Hydrazine, 1,2-dimethyl-
Hydrazine, 1,2-diphenyl-
Hydrofluoric acid (C,T)
Hydrogen fluoride (C,T)
Hydrogen sulfide H₂S
Hydroperoxide, 1-methyl-1-phenylethyl-(R)
2-Imidazolidinethione
Indeno[1,2,3-cd]pyrene
1,3-Isobenzofurandione
Isobutyl alcohol (I,T)
Isosafrole
Kepone
Lasiocarpine
Lead acetate
Lead, bis(acetato-O)tetrahydroxytri-
Lead phosphate
Lead subacetate
Lindane
MNNG
Maleic anhydride
Maleic hydrazide
Malononitrile
Melphalan
Mercury
Methacrylonitrile (I,T)
Methanamine, N-methyl- (I)
Methane, bromo-
Methane, chloro- (I,T)
Methane, chloromethoxy-
Methane, dibromo-

Methane, dichloro-
 Methane, dichlorodifluoro-
 Methane, iodo-
 Methanesulfonic acid, ethyl ester
 Methane, tetrachloro-
 Methanethiol (I,T)
 Methane, tribromo-
 Methane, trichloro-
 Methane, trichlorofluoro-
 4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8- octachloro-2,3,3a,4,7,7a-hexahydro-
 Methanol (I)
 Methapyrilene
 1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one,1,1a,3,3a,4,5,5,5a,5b,6-
 decachlorooctahydro-
 Methoxychlor
 Methyl alcohol (I)
 Methyl bromide
 1-Methylbutadiene (I)
 Methyl chloride (I,T)
 Methyl chlorocarbonate (I,T)
 Methyl chloroform
 3-Methylcholanthrene
 4,4'-Methylenebis(2-chloroaniline)
 Methylene bromide
 Methylene chloride
 Methyl ethyl ketone (MEK) (I,T)
 Methyl ethyl ketone peroxide (R,T)
 Methyl iodide
 Methyl isobutyl ketone (I)
 Methyl methacrylate (I,T)
 4-Methyl-2-pentanone (I)
 Methylthiouracil
 Mitomycin C
 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)-
 1-Naphthalenamine
 2-Naphthalenamine
 Naphthalenamine, N,N'-bis(2-chloroethyl)-
 Naphthalene
 Naphthalene, 2-chloro-
 1,4-Naphthalenedione
 2,7-Naphthalenedisulfonic acid, 3,3'- [(3,3'-dimethyl [1,1'-biphenyl]-4,4'-
 diyl)]-bis(azo)bis(5-amino-4- hydroxy)-, tetrasodium salt
 1-Naphthalenol, methylcarbamate.
 1,4-Naphthoquinone
 alpha-Naphthylamine

beta-Naphthylamine
Nitric acid, thallium (1+) salt
Nitrobenzene (I,T)
p-Nitrophenol
2-Nitropropane (I,T)
N-Nitrosodi-n-butylamine
N-Nitrosodiethanolamine
N-Nitrosodiethylamine
N-Nitroso-N-ethylurea
N-Nitroso-N-methylurea
N-Nitroso-N-methylurethane
N-Nitrosopiperidine
N-Nitrosopyrrolidine
5-Nitro-o-toluidine
1,2-Oxathiolane, 2,2-dioxide
2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-,2-oxide
Oxirane (I,T)
Oxiranecarboxyaldehyde
Oxirane, (chloromethyl)-
Paraldehyde
Pentachlorobenzene
Pentachloroethane
Pentachloronitrobenzene (PCNB)
Pentachlorophenol
Pentanol, 4-methyl-
1,3-Pentadiene (I)
Phenacetin
Phenol
Phenol, 2-chloro-
Phenol, 4-chloro-3-methyl-
Phenol, 2,4-dichloro-
Phenol, 2,6-dichloro-
Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-
Phenol, 2,4-dimethyl-
Phenol, methyl-
Phenol, 2-(1-methylethoxy)-, methylcarbamate.
Phenol, 2,2'-methylenebis[3,4,6- trichloro-
Phenol, 4-nitro-
Phenol, pentachloro-
Phenol, 2,3,4,6-tetrachloro-
Phenol, 2,4,5-trichloro-
Phenol, 2,4,6-trichloro-
L-Phenylalanine, 4-[bis(2- chloroethyl)amino]-
Phosphoric acid, lead (2+) salt (2:3)
Phosphorodithioic acid, O,O-diethyl S-methyl ester
Phosphorous sulfide (R)

Phthalic anhydride
2-Picoline
Piperidine, 1-nitroso-
Pronamide
1-Propanamine (I,T)
1-Propanamine, N-nitroso-N-propyl-
1-Propanamine, N-propyl- (I)
Propane, 1,2-dibromo-3-chloro-
Propane, 1,2-dichloro-
Propanedinitrile
Propane, 2-nitro- (I,T)
Propane, 2,2'-oxybis[1-chloro-
1,3-Propane sultone
Propanoic acid, 2-(2,4,5- trichlorophenoxy)-
1-Propanol, 2,3-dibromo-, phosphate (3:1)
1-Propanol, 2-methyl- (I,T)
2-Propanone (I)
2-Propenamide
1-Propene, 1,3-dichloro
1-Propene, 1,1,2,3,3,3-hexachloro-
2-Propenenitrile
2-Propenenitrile, 2-methyl- (I,T)
2-Propenoic acid (I)
2-Propenoic acid, ethyl ester (I)
2-Propenoic acid, 2-methyl-, ethyl ester
2-Propenoic acid, 2-methyl-, methyl ester
Propham.
Propoxur.
n-Propylamine (I,T)
Propylene dichloride
Prosulfocarb.
3,6-Pyridazinedione, 1,2-dihydro-
Pyridine
Pyridine, 2-methyl-
2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2- chloroethyl)amino]-
4-(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
Pyrrolidine, 1-nitroso-
Reserpine
Resorcinol
Saccharin and salts
Safrole
Selenious acid
Selenium dioxide
Selenium sulfide SeS₂ (R,T)
L-Serine, diazoacetate (ester)
Silvex

Streptozotocin
Sulfuric acid, dimethyl ester
Sulfur phosphide (R)
2,4,5-T
1,2,4,5-Tetrachlorobenzene
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
2,3,4,6-Tetrachlorophenol
Tetrahydrofuran (I)
Thallium (I) acetate
Thallium (I) carbonate
Thallium (I) chloride
Thallium chloride TlCl
Thallium (I) nitrate
Thioacetamide
Thiodicarb.
Thiomethanol (I,T)
Thioperoxydicarbonic diamide [(H₂N)C(S)]₂S₂, tetramethyl-
Thiourea
Thiram
Toluene (I,T)
Toluenediamine
Toluene diisocyanate (R,T)
o-Toluidine
p-Toluidine
o-Toluidine hydrochloride
1H-1,2,4-Triazol-3-amine
Triallate.
1,1,2-Trichloroethane
Trichloroethylene
Trichloromonofluoromethane
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
Triethylamine.
1,3,5-Trinitrobenzene (R,T)
1,3,5-Trioxane, 2,4,6-trimethyl-
Tris (2,3-dibromopropyl) phosphate
Trypan blue
Uracil mustard
Urea, N-ethyl-N-nitroso-
Urea, N-methyl-N-nitroso-
Vinyl chloride
Warfarin, and salts, when present at concentrations of 0.3% or less
Xylene (I)
Yohimban-16-carboxylic acid, 11,17-dimethoxy- 18-[(3,4,5-trimethoxybenzoyl)oxy]-,

methyl ester,(3 beta, 16 beta,17 alpha, 18 beta, 20 alpha)- Zinc phosphide Zn_3P_2 , when present at concentrations of 10% or less

Appendix C

Chemical Compatibility

RGN Reactivity Group Incompatible With:

- 1 Acids, Mineral, Non-Oxidizing 4-15,17-26,28,30-34,101-107
- 2 Acids, Mineral, Oxidizing 3-34,101-103,105-107
- 3 Acids, Organic 2,4,5,7,8,10-12,15,18,21,22,24,265,33,34,102-105, 107
- 4 Alcohols and Glycols 1-3,8,18,21,25,30,34,104,105,107
- 5 Aldehydes 1-3,7,8,10,12,21,25,27,28,30,33,34,104,105,107
- 6 Amides 1,2,21,24,104,105,107
- 7 Amines, Aliphatic and Aromatic 1-3,5,12,17,18,21,24,30,34,104,105,107
- 8 Azo Compounds, Diazo Compounds and Hydrazines 1-5,9,11-13,17-23,25,30-34,102-107
- 9 Carbamates 1,2,8,10,21,22,25,30,104,107
- 10 Caustics 1-3,5,9,13,17-19,21,22,24-27,32,34,102,103,107
- 11 Cyanides 1-3,5,9,13,17-19,21,22,24-27,32,34,102,103,107
- 12 Dithiocarbamates 1-3,8,17-19,21,25,30,34,103,104,107
- 13 Esters 1,2,8,10,21,25,102,104,105,107
- 14 Ethers 1,2,104,107
- 15 Fluorides, Inorganic 1-3,107
- 16 Hydrocarbons, Aromatic 1-3,6,7,10,26,30,34,102,103,106,107
- 25 Nitrides 1-5,8-13,17-21,26-27,30,31,34,101-104,106,107
- 26 Nitrites 1-3,10,21,24,25,30,104,105,107
- 27 Nitro Compounds, Organic 2,5,10,21,25,104,105,107
- 28 Hydrocarbons, Aliphatic, Unsaturated 1,2,5,22,30,104,107
- 29 Hydrocarbons, Aliphatic, Saturated 2,104,107
- 30 Peroxides and Hydroperoxides, Organic 1,2,4,5,7-9,11,12,17-22,24-26,28,31-34,101-105, 107
- 31 Phenols and Cresols 1,2,8,18,21,25,30,34,102-105,107
- 32 Organophosphates, Phosphothioates, Phosphodithioates 1,2,8,10,21,30,34,104,105,107
- 33 Sulfides, Inorganic 1-3,5,8,18,30,34,102-104,106,107
- 34 Epoxides 1-5,7,8,10-12,20-22,24,25,30-33,102,104,105,107
- 101 Combustible and Flammable Materials, Misc. 1,2,21,25,30,102,104,105,107
- 102 Explosives 1-3,8,10,13,21-25,30,31,33,34,101,105-105,107
- 103 Polymerizable Compounds 1-3,8,10-12,21-25,30,31,33,102,104,105,107
- 104 Oxidizing Agents, Strong 1,3-9,11-14,16-23,25-34,101-103,105,107
- 105 Reducing Agents, Strong 1-8,12,13,17-20,26,27,30,31,32,34,101-104,106,107
- 106 Water and Mixtures Containing Water 1,2,8,18,21,22,24,25,33,105,107
- 107 Water Reactive Substances ALL!

I. Acids, Mineral, Non-Oxidizing

4. Alcohols and Glycols
5. Aldehydes
6. Amides
7. Amines, Aliphatic and Aromatic
8. Azo Compounds, Diazo Compounds, and Hydrates
9. Carbamates
10. Caustics
11. Cyanides
12. Dithiocarbamates
13. Esters
14. Ethers
15. Fluorides, Inorganic
17. Halogenated hydrocarbons
18. Isocyanates
19. Ketones
20. Mercaptans and Other Organic Sulfides
21. Metals, Alkali and Alkaline Earth Metal
22. Metals, Other Elemental and Alloys as Powders, Vapors or Sponges

- 23. Metals, Other Elemental and Alloys as Sheets, Rods, Drops, Moldings
- 24. Metal and Metal Compounds, Toxic
- 25. Nitrides
- 26. Nitrites
- 28. Hydrocarbons, Aliphatic, Unsaturated
- 30. Peroxides and Hydrocarbons
- 31. Phenols and Cresols
- 32. Organophosphates, Phosphothioates, Phosphodithioates
- 33. Sulfides, Inorganic
- 34. Epoxides
- 101. Combustible and Flammable Materials, Misc.
- 102. Explosives
- 103. Polymerizable Compounds
- 104. Oxidizing Agents, Strong
- 105. Reducing Agents, Strong
- 106. Water and Mixtures Containing Water
- 107. Water Reactive Substances

II. Acids, Mineral, Oxidizing

- 3. Acids, Organics
- 4. Alcohols and Glycols
- 5. Aldehydes
- 6. Amides
- 7. Amines, Aliphatic and Aromatic
- 8. Azo Compounds, Diazo Compounds, and Hydrates
- 9. Carbamates
- 10. Caustics
- 11. Cyanides
- 12. Dithiocarbamates
- 13. Esters
- 14. Ethers
- 15. Fluorides, Inorganic
- 16. Hydrocarbons, Aromatic
- 17. Halogenated hydrocarbons
- 18. Isocyanates
- 19. Ketones
- 20. Mercaptans and Other Organic Sulfides
- 21. Metals, Alkali and Alkaline Earth Metal
- 22. Metals, Other Elemental and Alloys as Powders, Vapors or Sponges
- 23. Metals, Other Elemental and Alloys as Sheets, Rods, Drops, Moldings
- 24. Metal and Metal Compounds, Toxic
- 25. Nitrides
- 26. Nitrites
- 27. Nitro Compounds, Organic
- 28. Hydrocarbons, Aliphatic, Unsaturated
- 29. Hydrocarbons, Aliphatic, Saturated
- 30. Peroxides and Hydrocarbons
- 31. Phenols and Cresols
- 32. Organophosphates, Phosphothioates, Phosphodithioates
- 33. Sulfides, Inorganic
- 34. Epoxides
- 101. Combustible and Flammable Materials, Misc.
- 102. Explosives
- 103. Polymerizable Compounds
- 105. Reducing Agents, Strong
- 106. Water and Mixtures Containing Water

107. Water Reactive Substances

III. Acids, Organic

- 2. Acids, Mineral, Oxidizing
- 4. Alcohols and Glycols
- 5. Aldehydes
- 7. Amines, Aliphatic and Aromatic
- 8. Azo Compounds, Diazo Compounds, and Hydrates
- 10. Caustics
- 11. Cyanides
- 12. Dithiocarbamates
- 15. Fluorides, Inorganic
- 18. Isocyanates
- 21. Metals, Alkali and Alkaline Earth Metal
- 22. Metals, Other Elemental and Alloys as Powders, Vapors or Sponges
- 24. Metal and Metal Compounds, Toxic
- 25. Nitrides
- 26. Nitrites
- 33. Sulfides, Inorganic
- 34. Epoxides
- 102. Explosives
- 103. Polymerizable Compounds
- 104. Oxidizing Agents, Strong
- 105. Reducing Agents, Strong
- 107. Water Reactive Substances

IV. Alcohols and Glycols

- 1. Acids, Mineral, Nonoxidizing
- 2. Acids, Mineral, Oxidizing
- 3. Acids, Organic
- 8. Azo Compounds, Diazo Compounds and Hydrazines
- 18. Isocyanates
- 21. Metals, Alkali and Alkaline Earth Metals
- 25. Nitrides
- 30. Peroxides and Hydroperoxides, Organic
- 34. Epoxides
- 104. Oxidizing Agents, Strong
- 105. Reducing Agents, Strong
- 107. Water Reactive Substances

V. Aldehydes

- 1. Acids, Mineral, Nonoxidizing
- 2. Acids, Mineral, Oxidizing
- 3. Acids, Organics
- 7. Amines, Aliphatic and Aromatic
- 8. Azo Compounds, Diazo Compounds, and Hydrates
- 10. Caustics
- 12. Dithiocarbamates
- 21. Metals, Alkali and Alkaline Earth Metal
- 25. Nitrides
- 27. Nitro Compounds, Organic
- 28. Hydrocarbons, Aliphatic, Unsaturated
- 30. Peroxides and Hydrocarbons
- 33. Sulfides, Inorganic
- 34. Epoxides
- 104. Oxidizing Agents, Strong

- 105. Reducing Agents, Strong
- 107. Water Reactive Substances

VI. Amides

- 1. Acids, Mineral, Nonoxidizing
- 2. Acids, Mineral, Oxidizing
- 21. Metals, Alkali and Alkaline Earth Metal
- 24. Metal and Metal Compounds, Toxic
- 104. Oxidizing Agents, Strong
- 105. Reducing Agents, Strong
- 107. Water Reactive Substances

VII. Amines, Aliphatic and Aromatic

- 1. Acids, Mineral, Nonoxidizing
- 2. Acids, Mineral, Oxidizing
- 3. Acids, Organics
- 5. Aldehydes
- 12. Dithiocarbamates
- 17. Halogenated hydrocarbons
- 18. Isocyanates
- 21. Metals, Alkali and Alkaline Earth Metal
- 24. Metal and Metal Compounds, Toxic
- 30. Peroxides and Hydrocarbons
- 34. Epoxides
- 104. Oxidizing Agents, Strong
- 105. Reducing Agents, Strong
- 107. Water Reactive Substances

VIII. Azo Compounds, Diazo Compounds, and Hydrazines

- 1. Acids, Mineral, Nonoxidizing
- 2. Acids, Mineral, Oxidizing
- 3. Acids, Organics
- 4. Alcohols and Glycols
- 5. Aldehydes
- 9. Carbamates
- 11. Cyanides
- 12. Dithiocarbamates
- 13. Esters
- 17. Halogenated hydrocarbons
- 18. Isocyanates
- 19. Ketones
- 20. Mercaptans and Other Organic Sulfides
- 21. Metals, Alkali and Alkaline Earth Metal
- 22. Metals, Other Elemental and Alloys as Powders, Vapors or Sponges
- 23. Metals, Other Elemental and Alloys as Sheets, Rods, Drops, Moldings
- 25. Nitrides
- 30. Peroxides and Hydrocarbons
- 31. Phenols and Cresols
- 32. Organophosphates, Phosphothioates, Phosphodithioates
- 33. Sulfides, Inorganic
- 34. Epoxides
- 102. Explosives
- 103. Polymerizable Compounds
- 104. Oxidizing Agents, Strong
- 105. Reducing Agents, Strong
- 106. Water and Mixtures Containing Water

107. Water Reactive Substances

IX. Carbamates

- 1. Acids, Mineral, Nonoxidizing
- 2. Acids, Mineral, Oxidizing
- 8. Azo Compounds, Diazo Compounds, and Hydrates
- 10. Caustics
- 21. Metals, Alkali and Alkaline Earth Metal
- 22. Metals, Other Elemental and Alloys as Powders, Vapors or Sponges
- 25. Nitrides
- 30. Peroxides and Hydrocarbons
- 104. Oxidizing Agents, Strong
- 107. Water Reactive Substances

X. Caustics

- 1. Acids, Mineral, Nonoxidizing
- 2. Acids, Mineral, Oxidizing
- 3. Acids, Organics
- 5. Aldehydes
- 9. Carbamates
- 13. Esters
- 17. Halogenated hydrocarbons
- 18. Isocyanates
- 19. Ketones
- 21. Metals, Alkali and Alkaline Earth Metal
- 22. Metals, Other Elemental and Alloys as Powders, Vapors or Sponges
- 24. Metal and Metal Compounds, Toxic
- 25. Nitrides
- 26. Nitrites
- 27. Nitro Compounds, Organic
- 32. Organophosphates, Phosphothioates, Phosphodithioates
- 34. Epoxides
- 102. Explosives
- 103. Polymerizable Compounds
- 107. Water Reactive Substances

XI. Cyanides

- 1. Acids, Mineral, Nonoxidizing
- 2. Acids, Mineral, Oxidizing
- 3. Acids, Organics
- 8. Azo Compounds, Diazo Compounds, and Hydrates
- 17. Halogenated hydrocarbons
- 18. Isocyanates
- 19. Ketones
- 21. Metals, Alkali and Alkaline Earth Metal
- 25. Nitrides
- 30. Peroxides and Hydrocarbons
- 34. Epoxides
- 103. Polymerizable Compounds
- 104. Oxidizing Agents, Strong
- 107. Water Reactive Substances

XII. Dithiocarbamates

- 1. Acids, Mineral, Nonoxidizing
- 2. Acids, Mineral, Oxidizing
- 3. Acids, Organics

- 5. Aldehydes
- 7. Amines, Aliphatic and Aromatic
- 8. Azo Compounds, Diazo Compounds, and Hydrates
- 18. Isocyanates
- 21. Metals, Alkali and Alkaline Earth Metal
- 25. Nitrides
- 30. Peroxides and Hydrocarbons
- 34. Epoxides
- 103. Polymerizable Compounds
- 104. Oxidizing Agents, Strong
- 105. Reducing Agents, Strong
- 107. Water Reactive Substances

XIII. Esters

- 1. Acids, Mineral, Nonoxidizing
- 2. Acids, Mineral, Oxidizing
- 8. Azo Compounds, Diazo Compounds, and Hydrates
- 10. Caustics
- 21. Metals, Alkali and Alkaline Earth Metal
- 25. Nitrides
- 102. Explosives
- 104. Oxidizing Agents, Strong
- 105. Reducing Agents, Strong
- 107. Water Reactive Substances

XIV. Ethers

- 1. Acids, Mineral, Nonoxidizing
- 2. Acids, Mineral, Oxidizing
- 104. Oxidizing Agents, Strong
- 107. Water Reactive Substances

XV. Fluorides, Inorganic

- 1. Acids, Mineral, Nonoxidizing
- 2. Acids, Mineral, Oxidizing
- 3. Acids, Organics
- 107. Water Reactive Substances

XVI. Hydrocarbons, Aromatic

- 2. Acids, Mineral, Oxidizing
- 104. Oxidizing Agents, Strong
- 107. Water Reactive Substances

XVII. Halogenated Organics

- 1. Acids, Mineral, Nonoxidizing
- 2. Acids, Mineral, Oxidizing
- 7. Amines, Aliphatic and Aromatic
- 8. Azo Compounds, Diazo Compounds, and Hydrates
- 10. Caustics
- 11. Cyanides
- 20. Mercaptans and Other Organic Sulfides
- 21. Metals, Alkali and Alkaline Earth Metal
- 22. Metals, Other Elemental and Alloys as Powders, Vapors or Sponges
- 23. Metals, Other Elemental and Alloys as Sheets, Rods, Drops, Moldings
- 25. Nitrides
- 30. Peroxides and Hydrocarbons
- 104. Oxidizing Agents, Strong

- 105. Reducing Agents, Strong
- 107. Water Reactive Substances

XVIII. Isocyanates

- 1. Acids, Mineral, Nonoxidizing
- 2. Acids, Mineral, Oxidizing
- 3. Acids, Organics
- 4. Alcohols and Glycols
- 7. Amines, Aliphatic and Aromatic
- 8. Azo Compounds, Diazo Compounds, and Hydrates
- 10. Caustics
- 11. Cyanides
- 12. Dithiocarbamates
- 20. Mercaptans and Other Organic Sulfides
- 21. Metals, Alkali and Alkaline Earth Metal
- 22. Metals, Other Elemental and Alloys as Powders, Vapors or Sponges
- 25. Nitrides
- 30. Peroxides and Hydrocarbons
- 31. Phenols and Cresols
- 33. Sulfides, Inorganic
- 104. Oxidizing Agents, Strong
- 105. Reducing Agents, Strong
- 106. Water and Mixtures Containing Water
- 107. Water Reactive Substances

XIX. Ketones

- 1. Acids, Mineral, Nonoxidizing
- 2. Acids, Mineral, Oxidizing
- 8. Azo Compounds, Diazo Compounds, and Hydrates
- 10. Caustics
- 11. Cyanides
- 20. Mercaptans and Other Organic Sulfides
- 21. Metals, Alkali and Alkaline Earth Metal
- 25. Nitrides
- 30. Peroxides and Hydrocarbons
- 104. Oxidizing Agents, Strong
- 105. Reducing Agents, Strong
- 107. Water Reactive Substances

XX. Mercaptans and Other Organic Sulfides

- 1. Acids, Mineral, Nonoxidizing
- 2. Acids, Mineral, Oxidizing
- 8. Azo Compounds, Diazo Compounds, and Hydrazines
- 17. Halogenated hydrocarbons
- 18. Isocyanates
- 19. Ketones
- 21. Metals, Alkali and Alkaline Earth Metal
- 22. Metals, Other Elemental and Alloys as Powders, Vapors or Sponges
- 25. Nitrides
- 30. Peroxides and Hydrocarbons
- 34. Epoxides
- 104. Oxidizing Agents, Strong
- 105. Reducing Agents, Strong
- 107. Water Reactive Substances

XXI. Metals, Alkali and Alkaline Earth Elemental

1. Acids, Mineral, Nonoxidizing
2. Acids, Mineral, Oxidizing
3. Acids, Organics
4. Alcohols and Glycols
5. Aldehydes
6. Amides
7. Amines, Aliphatic and Aromatic
8. Azo Compounds, Diazo Compounds, and Hydrates
9. Carbamates
10. Caustics
11. Cyanides
12. Dithiocarbamates
13. Esters
17. Halogenated hydrocarbons
18. Isocyanates
19. Ketones
20. Mercaptans and Other Organic Sulfides
25. Nitrides
26. Nitrites
27. Nitro Compounds, Organic
30. Peroxides and Hydrocarbons
31. Phenols and Cresols
32. Organophosphates, Phosphothioates, Phosphodithioates
34. Epoxides
101. Combustible and Flammable Materials, Misc.
102. Explosives
103. Polymerizable Compounds
104. Oxidizing Agents, Strong
106. Water and Mixtures Containing Water
107. Water Reactive Substances

Appendix D

Table II - List of Inorganic Persistent and Bioaccumulative Toxic Substances and Their Soluble Threshold Limit Concentration (STLC) and Total Threshold Limit Concentration (TTLC) Values:

| Substance ^{a b} | STLC mg/l | TTLC Wet-Weight mg/kg |
|---|----------------|-----------------------------|
| Antimony and/or antimony compounds | 15 | 500 |
| Arsenic and/or arsenic compounds | 5.0 | 500 |
| Asbestos | | 1.0 (as percent) |
| Barium and/or barium compounds (excluding barite) | 100 | 10000 ^c |
| Beryllium and/or beryllium compounds | 0.75 | 75 |
| Cadmium and/or cadmium compounds | 1.0 | 100 |
| Chromium (VI) compounds | 5 | 500 |
| Chromium &/or chromium (III) compounds | 5 ^d | 2500 |
| Cobalt and/or cobalt compounds | 80 | 8000 |
| Copper and/or copper compounds | 25 | 2500 |
| Fluoride salts | 180 | 18000 |
| Lead and/or lead compounds | 5.0 | 1000 |
| Mercury and/or mercury compounds | 0.2 | 20 |
| Molybdenum &/or molybdenum compounds | 350 | 3500 ^e |
| Nickel and/or nickel compounds | 20 | 2000 |
| Selenium and/or selenium compounds | 1.0 | 100 |
| Silver and/or silver compounds | 5 | 500 |
| Thallium and/or thallium compounds | 7.0 | 700 |
| Vanadium and/or vanadium compounds | 24 | 2400 |
| Zinc and/or zinc compounds | 250 | 5000 |

^aSTLC and TTLC values are calculated on the concentrations of the elements, not the compounds.

^bIn the case of asbestos and elemental metals, the specified concentration limits apply only if the substances are in a friable, powdered or finely divided state. Asbestos includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite.

^cExcluding barium sulfate.

^dIf the soluble chromium, as determined by the TCLP set forth in Appendix I of chapter 18 of this division, is less than 5 mg/l, and the soluble chromium, as determined by the procedures set forth in Appendix II of chapter 11, equals or exceeds 560 mg/l and the waste is not otherwise identified as a RCRA hazardous waste pursuant to section 66261.100, then the waste is a non-RCRA hazardous waste.

^eExcluding molybdenum disulfide.

Table III - List of Organic Persistent and Bioaccumulative Toxic Substances and Their Soluble Threshold Limit Concentration (STLC) and Total Threshold Limit Concentration (TTLC)

Values:

| Substance | STLC mg/l | TTLC Wet Weight mg/kg |
|--------------------------------------|--------------|-----------------------------|
| Aldrin | 0.14 | 1.4 |
| Chlordane | 0.25 | 2.5 |
| DDT, DDE, DDD | 0.1 | 1.0 |
| 2,4-Dichlorophenoxyacetic acid | 10 | 100 |
| Dieldrin | 0.8 | 8.0 |
| Dioxin (2,3,7,8-TCDD) | 0.001 | 0.01 |
| Endrin | 0.02 | 0.2 |
| Heptachlor | 0.47 | 4.7 |
| Kepone | 2.1 | 21 |
| Lead compounds, organic | -- | 13 |
| Lindane | 0.4 | 4.0 |
| Methoxychlor | 10 | 100 |
| Mirex | 2.1 | 21 |
| Pentachlorophenol | 1.7 | 17 |
| Polychlorinated biphenyls (PCBs) | 5.0 | 50 |
| Toxaphene | 0.5 | 5 |
| Trichloroethylene | 204 | 2040 |
| 2,4,5-Trichlorophenoxypropionic acid | 1.0 | 10 |

Appendix E – Hazardous Waste Generator Locations

I. Science A

A. 3rd Floor

1. Rm 369
 - a) *Atomic Absorption analysis waste*
 - b) *Assorted acid/metal waste*
 - c) *Nuclear Magnetic Resonance analysis waste*

B. 4th Floor

1. Rms 452 & 456
 - a) *Preserved Animal and Plant Specimens*
 - b) *Cadaver Tank Waste (Alcohol solution)*

C. 5th Floor

1. Rm 569A
 - a) *Solvent waste from organic labs*
 - b) *Acid metal waste from general chemistry labs*
 - c) *Solvent waste from research labs*

II. Science B

A. 2nd Floor

1. Rm 230
 - a) *Organic solvents from biology labs*
 - b) *Corrosive waste from biology labs*
 - c) *Electrophoresis waste*
 - d) *Preserved specimens*
 - e) *Expired and unused lab chemicals*
 - f) *Solvent waste from genetic manipulation labs*

III. Science C

A. 1st Floor

1. Rms 102 & 108
 - a) *Photo waste from Transmission & Scanning Electron Microscopy*

IV. Science D

A. Ground Floor

1. Rm 7
 - a) *Corrosive wastes from water quality lab*
 - b) *Solvent waste from water quality lab*

V. Natural Resources

A. 1st Floor

1. Rm 104
 - a) *Corrosive waste from plant digests*
 - b) *Solvent waste*
 - c) *Electrophoresis waste*
 - d) *Solvent waste from genetic manipulation labs*

VI. Wildlife

A. 1st Floor

1. Rm 100

- a) *Alcohol and formalin preservative waste.*
- 2. Rm 112
 - a) *Electrophoresis waste*
 - b) *Alcohol and formalin preservative waste*
 - c) *Corrosive waste*
- B. 2nd Floor
 - 1. Rm 200
 - a) *Solvent waste*
 - b) *Solvent waste from genetic manipulation labs*
 - 2. Rm 214
 - a) *Corrosive waste from plant digests*
 - b) *Solvent waste*
 - c) *Electrophoresis waste*
 - d) *Solvent waste from genetic manipulation labs*
 - 3. Rm 272
 - a) *Corrosive waste from plant digests*
 - b) *Solvent waste*
 - c) *Electrophoresis waste*
 - d) *Solvent waste from genetic manipulation labs*

VII. Plant Operations

A. Various Locations to Haz Waste Accumulation Building

- 1. Various
 - a) *Asbestos*
 - b) *Lead/Acid Batteries*
 - c) *Paint related waste*
 - d) *PCB ballasts*
 - e) *Lighting waste*
 - f) *Electronic waste*
 - g) *Construction related waste*
 - h) *Used Oil*
 - i) *Oil filters*
 - j) *Antifreeze*

VIII. Jenkins Hall (Industrial Arts)

A. 1st Floor

- 1. Rm 106
 - a) *Lubricants contaminated with metals*

B. 2nd Floor

- 1. Rm 211
 - a) *Painted related waste*

IX. Art/Home Ec building

A. 1st Floor

- 1. Rm 118
 - a) *Photo Waste*
- 2. Rm 107
 - a) *Corrosives contaminated with metals from Jewelry Lab*
- 3. Rm 100

- a) *Lithography waste - corrosive and mineral spirits*
 - B. **2nd Floor**
 - 1. Rm 205
 - a) *Paint related waste*
 - 2. Rm 202 & 204
 - a) *Print making waste*
- X. **HSU Samoa Blvd Facility**
 - A. **1st Floor**
 - 1. Rm 101
 - a) *Cathode Ray Tubes*
 - b) *various e-waste*
- XI. **Theater Arts**
 - A. **1st Floor**
 - 1. Rm 103
 - a) *Paint related waste*
- XII. **Van Matre Hall**
 - A. **2nd Floor**
 - 1. Rm 211
 - a) *Lead/acid batteries from mainframe computer*
- XIII. **Student Health Center**
 - A. **1st Floor**
 - 1. Rm 124C (X-Ray)
 - a) *Photo waste*
- XIV. **Housing (JGC)**
 - A. **Ground Floor**
 - 1. From entire complex
 - a) *Asbestos*
 - b) *Lead/Acid batteries*
 - c) *Paint related waste*
 - d) *PCB ballasts*
 - e) *Lighting waste*
 - f) *Electronic waste*
 - g) *Construction related waste*
 - h) *Used oil*
 - i) *Oil filters*
- XV. **Telonicher Marine Lab (Trinidad)**
 - A. **Ground Floor**
 - 1. Shed on east side of facility
 - a) *Alcohol and formalin preserved specimens*
 - b) *Corrosive waste*
 - c) *Solvent waste*

Appendix F

HAZARDOUS WASTES OF CONCERN LIST

NOTE: Senate Bill 489 (2002) defined hazardous wastes of concern (HWC) as having the potential to be intentionally and effectively used to harm the public in a terrorist or other criminal act. Transporters and facilities handling HWC must immediately report missing wastes and submit disclosure statements and fingerprints to DTSC. The HWC Emergency Regulations, fact sheet, and related documents can be found at www.dtsc.ca.gov under Law, Regulations, and Policies, Emergency Regulations. The following table lists the chemicals, when classified as hazardous wastes, meet the Department of Toxic Substances Control (DTSC) criteria for HWC as explosive, poison, or poisonous gas as adopted on July 1, 2003 in the California Code of Regulations, title 22, section 66261.111, with a July 10, 2003 effective date. The chemical names are excerpted from the U.S. DOT Hazardous Materials Table (as revised October 1, 2002). This list may be updated periodically by future regulations. Contact DTSC at 1-800-72-TOXIC if you have questions.

HAZARDOUS WASTES OF CONCERN LIST OF CHEMICAL NAMES EXCERPTED FROM THE U.S. DOT HAZARDOUS MATERIALS TABLE (as revised October 1, 2002)

PROPER SHIPPING NAME/HAZARD CLASS/PACKING GROUP

(Hazard Class 6.1 Only)

1,1-Dichloro-1-nitroethane 6.1 II
1,2-Dibromobutan-3-one 6.1 II
1,3-Dichloroacetone 6.1 II
1,3-Dichloropropanol-2 6.1 II
1H-Tetrazole 1.1D
2,2'-Dichlorodiethyl ether 6.1 II
2-Amino-4-chlorophenol 6.1 II
2-Chloroethanal 6.1 I
2-Chloropyridine 6.1 II
2-Dimethylaminoethyl acrylate 6.1 II
2-Dimethylaminoethyl methacrylate 6.1 II
2-Ethylhexyl chloroformate 6.1 II
2-Methyl-2-heptanethiol 6.1 I
3,5-Dichloro-2,4,6-trifluoropyridine 6.1 I
3-Chloro-4-methylphenyl isocyanate 6.1 II
3-Nitro-4-chlorobenzotrifluoride 6.1 II
3-Trifluoromethylaniline 6.1 II
5-Nitrobenzotriazol 1.1D
Acetone cyanohydrin, stabilized 6.1 I
Acrolein, stabilized 6.1 I
Aldol 6.1 II
Alkaloids, liquid, n.o.s., [or] Alkaloid salts, liquid, n.o.s. 6.1 I
Alkaloids, liquid, n.o.s., [or] Alkaloid salts, liquid, n.o.s. 6.1 II
Alkaloids, solid, n.o.s. [or] Alkaloid salts, solid, n.o.s. [poisonous] 6.1 I
Alkaloids, solid, n.o.s. [or] Alkaloid salts, solid, n.o.s. [poisonous] 6.1 II
Allyl alcohol 6.1 I
Allyl chloroformate 6.1 I
Allyl isothiocyanate, stabilized 6.1 II
Allylamine 6.1 I
Aluminum phosphide pesticides 6.1 I
Aminopyridines [(o-; m-; p-)] 6.1 II
Ammonia solution, [relative density less than 0.880 at 15 degrees C in water, with more than 50 percent ammonia]
2.3
Ammonia, anhydrous 2.3
Ammonium arsenate 6.1 II
Ammonium dinitro-o-cresolate 6.1 II

Ammonium metavanadate 6.1 II

Ammonium nitrate, [with more than 0.2 percent combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance] 1.1D

Ammonium perchlorate 1.1D

Ammonium picrate, [dry or wetted with less than 10 percent water, by mass] 1.1D

Ammonium polyvanadate 6.1 II

Ammunition smoke, white phosphorus [with burster,expelling charge, or propelling charge] 1.2H

Ammunition, illuminating [with or without burster, expelling charge or propelling charge] 1.2G

Ammunition, illuminating [with or without burster, expelling charge or propelling charge] 1.3G

Ammunition, incendiary [liquid or gel, with burster, expelling charge or propelling charge] 1.3J

Ammunition, incendiary [with or without burster, expelling charge, or propelling charge] 1.2G

Ammunition, incendiary [with or without burster, expelling charge, or propelling charge] 1.3G

Ammunition, incendiary, white phosphorus, [with burster, expelling charge or propelling charge] 1.2H

Ammunition, incendiary, white phosphorus, [with burster, expelling charge or propelling charge] 1.3H

Ammunition, practice 1.3G

Ammunition, smoke [with or without burster, expelling charge or propelling charge] 1.2G

Ammunition, smoke [with or without burster, expelling charge or propelling charge] 1.3G

Ammunition, smoke, white phosphorus [with burster, expelling charge, or propelling charge] 1.3H

Ammunition, tear-producing [with burster, expelling charge or propelling charge] 1.2G

Ammunition, tear-producing [with burster, expelling charge or propelling charge] 1.3G

Ammunition, tear-producing, non-explosive, [without burster or expelling charge, non-fuzed] 6.1 II

Ammunition, toxic [with burster, expelling charge, or propelling charge] 1.2K

Ammunition, toxic [with burster, expelling charge, or propelling charge] 1.3K

Ammunition, toxic, non-explosive, [without burster or expelling charge, non-fuzed] 6.1 II

Aniline 6.1 II

Arsenic 6.1 II

Arsenic acid, liquid 6.1 I

Arsenic acid, solid 6.1 II

Arsenic bromide 6.1 II

Arsenic compounds, liquid, n.o.s. [inorganic, including arsenates, n.o.s.; arsenites, n.o.s.; arsenic sulfides, n.o.s.; and organic compounds of arsenic, n.o.s.] 6.1 I

Arsenic compounds, liquid, n.o.s. [inorganic, including arsenates, n.o.s.; arsenites, n.o.s.; arsenic sulfides, n.o.s.; and organic compounds of arsenic, n.o.s.] 6.1 II

Arsenic compounds, solid, n.o.s. [inorganic, including arsenates, n.o.s.; arsenites, n.o.s.; arsenic sulfides, n.o.s.; and organic compounds of arsenic, n.o.s.] 6.1 I

Arsenic compounds, solid, n.o.s. [inorganic, including arsenates, n.o.s.; arsenites, n.o.s.; arsenic sulfides, n.o.s.; and organic compounds of arsenic, n.o.s.] 6.1 II

Arsenic pentoxide 6.1 II

Arsenic trichloride 6.1 I

Arsenic trioxide 6.1 II

Arsenical dust 6.1 II

Arsenical pesticides, liquid, toxic 6.1 I

Arsenical pesticides, liquid, toxic 6.1 II

Arsenical pesticides, liquid, toxic, flammable [flash point not less than 23 degrees C] 6.1 I

Arsenical pesticides, liquid, toxic, flammable [flash point not less than 23 degrees C] 6.1 II

Arsenical pesticides, solid, toxic 6.1 I

Arsenical pesticides, solid, toxic 6.1 II

Arsine 2.3

Articles, explosive, n.o.s. 1.1C

Articles, explosive, n.o.s. 1.1D

Articles, explosive, n.o.s. 1.1E

Articles, explosive, n.o.s. 1.1F

Articles, explosive, n.o.s. 1.1L

Articles, explosive, n.o.s. 1.2C

Articles, explosive, n.o.s. 1.2D

Articles, explosive, n.o.s. 1.2E

Articles, explosive, n.o.s. 1.2F
Articles, explosive, n.o.s. 1.2L
Articles, explosive, n.o.s. 1.3C
Articles, explosive, n.o.s. 1.3L
Articles, pyrophoric 1.2L
Articles, pyrotechnic [for technical purposes] 1.1G
Articles, pyrotechnic [for technical purposes] 1.2G
Articles, pyrotechnic [for technical purposes] 1.3G
Barium azide, [dry or wetted with less than 50 percent water, by mass] 1.1A
Barium compounds, n.o.s. 6.1 II
Barium cyanide 6.1 I
Benzidine 6.1 II
Benzonitrile 6.1 II
Benzoquinone 6.1 II
Benzyl bromide 6.1 II
Benzyl chloride 6.1 II
Benzyl chloride [unstabilized] 6.1 II
Benzyl iodide 6.1 II
Benzylidene chloride 6.1 II
Beryllium compounds, n.o.s. 6.1 II
Beryllium, powder 6.1 II
beta-Naphthylamine 6.1 II
Bipyridilium pesticides, liquid, toxic 6.1 I
Bipyridilium pesticides, liquid, toxic 6.1 II
Bipyridilium pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C] 6.1 I
Bipyridilium pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C] 6.1 II
Bipyridilium pesticides, solid, toxic 6.1 I
Bipyridilium pesticides, solid, toxic 6.1 II
Black powder [or] Gunpowder, [granular or as a meal] 1.1D
Black powder, compressed [or] Gunpowder, compressed [or] Black powder, in pellets [or] Gunpowder, in pellets 1.1D
Bombs with flammable liquid, [with bursting charge] 1.1J
Bombs with flammable liquid, [with bursting charge] 1.2J
Bombs, [with bursting charge] 1.1D
Bombs, [with bursting charge] 1.1F
Bombs, [with bursting charge] 1.2D
Bombs, [with bursting charge] 1.2F
Bombs, photo-flash 1.1D
Bombs, photo-flash 1.1F
Bombs, photo-flash 1.2G
Bombs, photo-flash 1.3G
Boosters with detonator 1.1B
Boosters with detonator 1.2B
Boosters, [without detonator] 1.1D
Boosters, [without detonator] 1.2D
Boron trichloride 2.3
Boron trifluoride, compressed 2.3
Bromine chloride 2.3
Bromoacetone 6.1 II
Bromobenzyl cyanides, [liquid] 6.1 I
Bromobenzyl cyanides, [solid] 6.1 I
Brucine 6.1 I
Bursts, [explosive] 1.1D
Cacodylic acid 6.1 II
Cadmium compounds 6.1 I
Cadmium compounds 6.1 II

Calcium arsenate 6.1 II
 Calcium arsenate and calcium arsenite, mixtures, solid 6.1 II
 Calcium cyanide 6.1 I
 Carbamate pesticides, liquid, toxic 6.1 I
 Carbamate pesticides, liquid, toxic 6.1 II
 Carbamate pesticides, liquid, toxic, flammable[, flash point not less than 23 degrees C] 6.1 I
 Carbamate pesticides, liquid, toxic, flammable[, flash point not less than 23 degrees C] 6.1 II
 Carbamate pesticides, solid, toxic 6.1 I
 Carbamate pesticides, solid, toxic 6.1 II
 Carbon monoxide and hydrogen mixture, compressed 2.3
 Carbon monoxide, compressed 2.3
 Carbon monoxide, refrigerated liquid [(cryogenic liquid)] 2.3
 Carbon tetrachloride 6.1 II
 Carbonyl fluoride, compressed 2.3
 Carbonyl sulfide 2.3
 Cartridges for weapons, [with bursting charge] 1.1E
 Cartridges for weapons, [with bursting charge] 1.1F
 Cartridges for weapons, [with bursting charge] 1.2E
 Cartridges for weapons, [with bursting charge] 1.2F
 Cartridges for weapons, blank 1.1C
 Cartridges for weapons, blank 1.2C
 Cartridges for weapons, blank [or] Cartridges, small arms, blank 1.3C
 Cartridges for weapons, inert projectile 1.2C
 Cartridges for weapons, inert projectile [or] Cartridges, small arms 1.3C
 Cartridges, flash 1.1G
 Cartridges, flash 1.3G
 Cartridges, oil well 1.3C
 Cartridges, power device 1.2C
 Cartridges, power device 1.3C
 Cartridges, signal 1.3G
 Cases, combustible, empty, without primer 1.3C
 Charges, bursting, plastics bonded 1.1D
 Charges, bursting, plastics bonded 1.2D
 Charges, demolition 1.1D
 Charges, depth 1.1D
 Charges, explosive, commercial [without detonator] 1.1D
 Charges, explosive, commercial [without detonator] 1.2D
 Charges, propelling 1.1C
 Charges, propelling 1.2C
 Charges, propelling 1.3C
 Charges, propelling, for cannon 1.1C
 Charges, propelling, for cannon 1.2C
 Charges, propelling, for cannon 1.3C
 Charges, shaped, [without detonator] 1.1D
 Charges, shaped, [without detonator] 1.2D
 Charges, shaped, flexible, linear 1.1D
 Charges, supplementary explosive 1.1D
 Chloral, anhydrous, stabilized 6.1 II
 Chlorine 2.3
 Chlorine pentafluoride 2.3
 Chlorine trifluoride 2.3
 Chloroacetic acid, molten 6.1 II
 Chloroacetic acid, solid 6.1 II
 Chloroacetic acid, solution 6.1 II
 Chloroacetone, stabilized 6.1 I
 Chloroacetonitrile 6.1 II

Chloroacetophenone [(CN), liquid] 6.1 II
 Chloroacetophenone [(CN), solid] 6.1 II
 Chloroacetyl chloride 6.1 I
 Chloroanilines, liquid 6.1 II
 Chloroanilines, solid 6.1 II
 Chlorocresols, [liquid] 6.1 II
 Chlorocresols, [solid] 6.1 II
 Chlorodinitrobenzenes 6.1 II
 Chloroformates, toxic, corrosive, flammable, n.o.s. 6.1 II
 Chloroformates, toxic, corrosive, n.o.s. 6.1 II
 Chloromethyl chloroformate 6.1 II
 Chloronitrobenzene, [ortho, liquid] 6.1 II
 Chloronitrobenzenes [meta or para, solid] 6.1 II
 Chloropicrin 6.1 I
 Chloropicrin and methyl bromide mixtures 2.3
 Chloropicrin and methyl chloride mixtures 2.3
 Chloropicrin mixtures, n.o.s. 6.1 I
 Chloropicrin mixtures, n.o.s. 6.1 II
 Chloropivaloyl chloride 6.1 I
 Coal gas, compressed 2.3
 Components, explosive train, n.o.s. 1.1B
 Components, explosive train, n.o.s. 1.2B
 Compounds, tree killing, liquid [or] Compounds, weed killing, liquid 6.1 I
 Compounds, tree killing, liquid [or] Compounds, weed killing, liquid 6.1 II
 Compressed gas, toxic, corrosive, n.o.s. [Inhalation Hazard Zone A] 2.3
 Compressed gas, toxic, corrosive, n.o.s. [Inhalation Hazard Zone B] 2.3
 Compressed gas, toxic, corrosive, n.o.s. [Inhalation Hazard Zone C] 2.3
 Compressed gas, toxic, corrosive, n.o.s. [Inhalation Hazard Zone D] 2.3
 Compressed gas, toxic, flammable, corrosive, n.o.s. [Inhalation Hazard Zone A] 2.3
 Compressed gas, toxic, flammable, corrosive, n.o.s. [Inhalation Hazard Zone B] 2.3
 Compressed gas, toxic, flammable, corrosive, n.o.s. [Inhalation Hazard Zone C] 2.3
 Compressed gas, toxic, flammable, corrosive, n.o.s. [Inhalation Hazard Zone D] 2.3
 Compressed gas, toxic, flammable, n.o.s. [Inhalation hazard Zone -64- A] 2.3
 Compressed gas, toxic, flammable, n.o.s. [Inhalation hazard Zone B] 2.3
 Compressed gas, toxic, flammable, n.o.s. [Inhalation Hazard Zone C] 2.3
 Compressed gas, toxic, flammable, n.o.s. [Inhalation Hazard Zone D] 2.3
 Compressed gas, toxic, n.o.s. [Inhalation Hazard Zone A] 2.3
 Compressed gas, toxic, n.o.s. [Inhalation Hazard Zone B] 2.3
 Compressed gas, toxic, n.o.s. [Inhalation Hazard Zone C] 2.3
 Compressed gas, toxic, n.o.s. [Inhalation Hazard Zone D] 2.3
 Compressed gas, toxic, oxidizing, corrosive, n.o.s. [Inhalation Hazard Zone A] 2.3
 Compressed gas, toxic, oxidizing, corrosive, n.o.s. [Inhalation Hazard Zone B] 2.3
 Compressed gas, toxic, oxidizing, corrosive, n.o.s. [Inhalation Hazard Zone C] 2.3
 Compressed gas, toxic, oxidizing, corrosive, n.o.s. [Inhalation Hazard Zone D] 2.3
 Compressed gas, toxic, oxidizing, n.o.s. [Inhalation Hazard Zone A] 2.3
 Compressed gas, toxic, oxidizing, n.o.s. [Inhalation Hazard Zone B] 2.3
 Compressed gas, toxic, oxidizing, n.o.s. [Inhalation Hazard Zone C] 2.3
 Compressed gas, toxic, oxidizing, n.o.s. [Inhalation Hazard Zone D] 2.3
 Contrivances, water-activated, [with burster, expelling charge or propelling charge] 1.2L
 Contrivances, water-activated, [with burster, expelling charge or propelling charge] 1.3L
 Copper acetoarsenite 6.1 II
 Copper arsenite 6.1 II
 Copper based pesticides, liquid, toxic 6.1 I
 Copper based pesticides, liquid, toxic 6.1 II
 Copper based pesticides, liquid, toxic, flammable [flash point not less than 23 degrees C] 6.1 I
 Copper based pesticides, liquid, toxic, flammable [flash point not less than 23 degrees C] 6.1 II

Copper based pesticides, solid, toxic 6.1 I
 Copper based pesticides, solid, toxic 6.1 II
 Copper cyanide 6.1 II
 Cord detonating [or] Fuse detonating [metal clad] 1.2D
 Cord, detonating [or] Fuse, detonating [metal clad] 1.1D
 Cord, detonating, [flexible] 1.1D
 Coumarin derivative pesticides, liquid, toxic 6.1 I
 Coumarin derivative pesticides, liquid, toxic 6.1 II
 Coumarin derivative pesticides, liquid, toxic, flammable [flash point not less than 23 degrees C] 6.1 I
 Coumarin derivative pesticides, liquid, toxic, flammable [flash point not less than 23 degrees C] 6.1 II
 Coumarin derivative pesticides, solid, toxic 6.1 I
 Coumarin derivative pesticides, solid, toxic 6.1 II
 Cresols 6.1 II
 Cresylic acid 6.1 II
 Crotonaldehyde, stabilized 6.1 I
 Cyanide solutions, n.o.s. 6.1 I
 Cyanide solutions, n.o.s. 6.1 II
 Cyanides, inorganic, solid, n.o.s. 6.1 I
 Cyanides, inorganic, solid, n.o.s. 6.1 II
 Cyanogen 2.3
 Cyanogen bromide 6.1 I
 Cyanogen chloride, stabilized 2.3
 Cyclobutyl chloroformate 6.1 II
 Cyclohexyl isocyanate 6.1 I
 Cyclotetramethylenetetranitramine, desensitized [or] Octogen, desensitized [or] HMX, desensitized 1.1D
 Cyclotetramethylenetetranitramine, wetted [or] HMX, wetted [or] Octogen, wetted [with not less than 15 percent water, by mass] 1.1D
 Cyclotrimethylenetrinitramine, desensitized [or] Cyclonite, desensitized [or] Hexogen, desensitized [or] RDX, desensitized 1.1D
 Cyclotrimethylenetrinitramine, wetted [or] Cyclonite, wetted [or] Hexogen, wetted [or] RDX, wetted [with not less than 15 percent water by mass] 1.1D
 Deflagrating metal salts of aromatic nitroderivatives, n.o.s. 1.3C
 Detonator assemblies, non-electric [for blasting] 1.1B
 Detonators for ammunition 1.1B
 Detonators for ammunition 1.2B
 Detonators, electric, [for blasting] 1.1B
 Detonators, non-electric, [for blasting] 1.1B
 Diazodinitrophenol, wetted [with not less than 40 percent water or mixture of alcohol and water, by mass] 1.1A
 Diborane, compressed 2.3
 Dichloroanilines, liquid 6.1 II
 Dichloroanilines, solid 6.1 II
 Dichlorodimethyl ether, symmetrical 6.1 I
 Dichloroisopropyl ether 6.1 II
 Dichlorophenyl isocyanates 6.1 II
 Dichlorosilane 2.3
 Diethyl sulfate 6.1 II
 Diethyleneglycol dinitrate, desensitized [with not less than 25 percent non-volatile water-insoluble phlegmatizer, by mass] 1.1D
 Diketene, stabilized 6.1 I
 Dimethyl sulfate 6.1 I
 Dimethyl thiophosphoryl chloride 6.1 II
 Dimethylhydrazine, symmetrical 6.1 I
 Dimethylhydrazine, unsymmetrical 6.1 I
 Dinitroanilines 6.1 II
 Dinitrobenzenes, [liquid] 6.1 II
 Dinitrobenzenes, [solid] 6.1 II

Dinitrogen tetroxide 2.3
Dinitroglycoluril [or] Dingu 1.1D
Dinitro-o-cresol, [solid] 6.1 II
Dinitro-o-cresol, [solution] 6.1 II
Dinitrophenol solutions 6.1 II
Dinitrophenol, [dry or wetted with less than 15 percent water, by mass] 1.1D
Dinitrophenolates [alkali metals, dry or wetted with less than 15 percent water, by mass] 1.3C
Dinitroresorcinol, [dry or wetted with less than 15 percent water, by mass] 1.1D
Dinitrosobenzene 1.3C
Dinitrotoluenes, [liquid] 6.1 II
Dinitrotoluenes, [solid] 6.1 II
Dinitrotoluenes, molten 6.1 II
Diphenylamine chloroarsine 6.1 I
Diphenylchloroarsine, liquid 6.1 I
Diphenylchloroarsine, solid 6.1 I
Dipicryl sulfide, [dry or wetted with less than 10 percent water, by mass] 1.1D
Disinfectants, liquid, toxic, n.o.s. 6.1 I
Disinfectants, liquid, toxic, n.o.s. 6.1 II
Disinfectants, solid, toxic, n.o.s. 6.1 II
Dyes, liquid, toxic, n.o.s. [or] Dye intermediates, liquid, toxic, n.o.s. 6.1 II
Dyes, solid, toxic, n.o.s. [or] Dye intermediates, solid, toxic, n.o.s. 6.1 I
Dyes, solid, toxic, n.o.s. [or] Dye intermediates, solid, toxic, n.o.s. 6.1 II
Epibromohydrin 6.1 I
Epichlorohydrin 6.1 II
Ethyl bromide 6.1 II
Ethyl bromoacetate 6.1 II
Ethyl chloroacetate 6.1 II
Ethyl chloroformate 6.1 I
Ethyl phosphonothioic dichloride, anhydrous 6.1 I
Ethyl phosphonous dichloride, anhydrous [pyrophoric liquid] 6.1 I
Ethyl phosphorodichloridate 6.1 I
Ethylchloroarsine 6.1 I
Ethylene chlorohydrin 6.1 I
Ethylene dibromide 6.1 I
Ethylene oxide [or] Ethylene oxide with nitrogen [up to a total pressure of 1MPa (10 bar) at 50 degrees C] 2.3
Ethylene oxide and carbon dioxide mixture [with more than 87 percent ethylene oxide] 2.3
Ethyleneimine, stabilized 6.1 I
Explosive, blasting, type A 1.1D
Explosive, blasting, type B 1.1D
Explosive, blasting, type C 1.1D
Explosive, blasting, type D 1.1D
Explosive, blasting, type E 1.1D
Ferric arsenate 6.1 II
Ferric arsenite 6.1 II
Ferrous arsenate 6.1 II
Fireworks 1.1G
Fireworks 1.2G
Fireworks 1.3G
Flares, aerial 1.1G
Flares, aerial 1.2G
Flares, aerial 1.3G
Flares, surface 1.1G
Flares, surface 1.2G
Flares, surface 1.3G
Flash powder 1.1G
Flash powder 1.3G

Fluorine, compressed 2.3
 Fluoroacetic acid 6.1 I
 Fracturing devices, explosive, [without detonators for oil wells] 1.1D
 Furaldehydes 6.1 II
 Fuse, non-detonating [instantaneous or quickmatch] 1.3G
 Fuzes, detonating 1.1B
 Fuzes, detonating 1.2B
 Fuzes, detonating, [with protective features] 1.1D
 Fuzes, detonating, [with protective features] 1.2D
 Fuzes, igniting 1.3G
 Gas identification set 2.3
 Gas sample, non-pressurized, toxic, flammable, n.o.s., [not refrigerated liquid] 2.3
 Gas sample, non-pressurized, toxic, n.o.s., [not refrigerated liquid] 2.3
 Germane 2.3
 Grenades, [hand or rifle, with bursting charge] 1.1D
 Grenades, [hand or rifle, with bursting charge] 1.1F
 Grenades, [hand or rifle, with bursting charge] 1.2D
 Grenades, [hand or rifle, with bursting charge] 1.2F
 Grenades, practice, [hand or rifle] 1.2G
 Grenades, practice, [hand or rifle] 1.3G
 Guanyl nitrosaminoguanylidene hydrazine, wetted [with not less than 30 percent water, by mass] 1.1A
 Guanyl nitrosaminoguanyltetrazene, wetted [or] Tetrazene, wetted [with not less than 30 percent water or mixture of alcohol and water, by mass] 1.1A
 Hexachlorocyclopentadiene 6.1 I
 Hexaethyl tetraphosphate and compressed gas mixtures 2.3
 Hexaethyl tetraphosphate, [liquid] 6.1 II
 Hexaethyl tetraphosphate, [solid] 6.1 II
 Hexafluoroacetone 2.3
 Hexafluoroacetone hydrate 6.1 II
 Hexamethylene diisocyanate 6.1 II
 Hexanitrodiphenylamine [or] Dipicrylamine [or] Hexyl 1.1D
 Hexanitrostilbene 1.1D
 Hexolite, [or] Hexotol [dry or wetted with less than 15 percent water, by mass] 1.1D
 Hexotonal 1.1D
 Hydrocyanic acid, aqueous solutions [or] Hydrogen cyanide, aqueous solutions [with not more than 20 percent hydrogen cyanide] 6.1 I
 Hydrocyanic acid, aqueous solutions [with less than 5 percent hydrogen cyanide] 6.1 II
 Hydrogen bromide, anhydrous 2.3
 Hydrogen chloride, anhydrous 2.3
 Hydrogen chloride, refrigerated liquid 2.3
 Hydrogen cyanide, solution in alcohol [with not more than 45 percent hydrogen cyanide] 6.1 I
 Hydrogen cyanide, stabilized [with less than 3 percent water] 6.1 I
 Hydrogen cyanide, stabilized, [with less than 3 percent water and absorbed in a porous inert material] 6.1 I
 Hydrogen iodide, anhydrous 2.3
 Hydrogen selenide, anhydrous 2.3
 Hydrogen sulfide 2.3
 Igniters 1.1G
 Igniters 1.2G
 Igniters 1.3G
 Insecticide gases, toxic, flammable, n.o.s. [Inhalation hazard Zone A] 2.3
 Insecticide gases, toxic, flammable, n.o.s. [Inhalation hazard Zone B] 2.3
 Insecticide gases, toxic, flammable, n.o.s. [Inhalation hazard Zone C] 2.3
 Insecticide gases, toxic, flammable, n.o.s. [Inhalation hazard Zone D] 2.3
 Insecticide gases, toxic, n.o.s. 2.3
 Iron pentacarbonyl 6.1 I
 Isobutyl chloroformate 6.1 I

Isocyanates, toxic, flammable, n.o.s. [or] Isocyanate solutions, toxic, flammable, n.o.s., [flash point not less than 23 degrees C but not more than 61 degrees C and boiling point less than 300 degrees C] 6.1 II
 Isocyanates, toxic, n.o.s. [or] Isocyanate solutions, toxic, n.o.s., [flash point more than 61 degrees C and boiling point less than 300 degrees C] 6.1 II
 Isocyanatobenzotrifluorides 6.1 II
 Isopropyl chloroformate 6.1 I
 Jet perforating guns, charged [oil well, without detonator] 1.1D
 Jet perforating guns, charged oil well, with detonator 1.1D
 Lead arsenates 6.1 II
 Lead arsenites 6.1 II
 Lead azide, wetted [with not less than 20 percent water or mixture of alcohol and water, by mass] 1.1A
 Lead cyanide 6.1 II
 Lead styphnate, wetted [or] Lead trinitroresorcinate, wetted [with not less than 20 percent water or mixture of alcohol and water, by mass] 1.1A
 Liquefied gas toxic, flammable, corrosive, n.o.s. [Inhalation Hazard Zone B] 2.3
 Liquefied gas, toxic, corrosive, n.o.s. [Inhalation Hazard Zone A] 2.3
 Liquefied gas, toxic, corrosive, n.o.s. [Inhalation Hazard Zone B] 2.3
 Liquefied gas, toxic, corrosive, n.o.s. [Inhalation Hazard Zone C] 2.3
 Liquefied gas, toxic, corrosive, n.o.s. [Inhalation Hazard Zone D] 2.3
 Liquefied gas, toxic, flammable, corrosive, n.o.s. [Inhalation Hazard Zone A] 2.3
 Liquefied gas, toxic, flammable, corrosive, n.o.s. [Inhalation Hazard Zone C] 2.3
 Liquefied gas, toxic, flammable, corrosive, n.o.s. [Inhalation Hazard Zone D] 2.3
 Liquefied gas, toxic, flammable, n.o.s. [Inhalation Hazard Zone A] 2.3
 Liquefied gas, toxic, flammable, n.o.s. [Inhalation Hazard Zone B] 2.3
 Liquefied gas, toxic, flammable, n.o.s. [Inhalation Hazard Zone C] 2.3
 Liquefied gas, toxic, flammable, n.o.s. [Inhalation Hazard Zone D] 2.3
 Liquefied gas, toxic, n.o.s. [Inhalation Hazard Zone A] 2.3
 Liquefied gas, toxic, n.o.s. [Inhalation Hazard Zone B] 2.3
 Liquefied gas, toxic, n.o.s. [Inhalation Hazard Zone C] 2.3
 Liquefied gas, toxic, n.o.s. [Inhalation Hazard Zone D] 2.3
 Liquefied gas, toxic, oxidizing, corrosive, n.o.s. [Inhalation Hazard Zone A] 2.3
 Liquefied gas, toxic, oxidizing, corrosive, n.o.s. [Inhalation Hazard Zone B] 2.3
 Liquefied gas, toxic, oxidizing, corrosive, n.o.s. [Inhalation Hazard Zone C] 2.3
 Liquefied gas, toxic, oxidizing, corrosive, n.o.s. [Inhalation Hazard Zone D] 2.3
 Liquefied gas, toxic, oxidizing, n.o.s. [Inhalation Hazard Zone A] 2.3
 Liquefied gas, toxic, oxidizing, n.o.s. [Inhalation Hazard Zone B] 2.3
 Liquefied gas, toxic, oxidizing, n.o.s. [Inhalation Hazard Zone C] 2.3
 Liquefied gas, toxic, oxidizing, n.o.s. [Inhalation Hazard Zone D] 2.3
 London purple 6.1 II
 Magnesium arsenate 6.1 II
 Malononitrile 6.1 II
 Mannitol hexanitrate, wetted [or] Nitromannite, wetted [with not less than 40 percent water, or mixture of alcohol and water, by mass] 1.1D
 Medicine, liquid, toxic, n.o.s. 6.1 II
 Medicine, solid, toxic, n.o.s. 6.1 II
 Mercaptans, liquid, toxic, flammable, n.o.s. [or] Mercaptan mixtures, liquid, toxic, flammable, n.o.s., [flash point not less than 23 degrees C] 6.1 II
 Mercuric arsenate 6.1 II
 Mercuric chloride 6.1 II
 Mercuric nitrate 6.1 II
 Mercuric potassium cyanide 6.1 I
 Mercurous nitrate 6.1 II
 Mercury acetate 6.1 II
 Mercury ammonium chloride 6.1 II
 Mercury based pesticides, liquid, toxic 6.1 I
 Mercury based pesticides, liquid, toxic 6.1 II

Mercury based pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C] 6.1 I
 Mercury based pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C] 6.1 II
 Mercury based pesticides, solid, toxic 6.1 I
 Mercury based pesticides, solid, toxic 6.1 II
 Mercury benzoate 6.1 II
 Mercury bromides 6.1 II
 Mercury compounds, liquid, n.o.s. 6.1 I
 Mercury compounds, liquid, n.o.s. 6.1 II
 Mercury compounds, solid, n.o.s. 6.1 I
 Mercury compounds, solid, n.o.s. 6.1 II
 Mercury cyanide 6.1 II
 Mercury fulminate, wetted [with not less than 20 percent water, or mixture of alcohol and water, by mass] 1.1A
 Mercury gluconate 6.1 II
 Mercury iodide, [solid] 6.1 II
 Mercury iodide, [solution] 6.1 II
 Mercury nucleate 6.1 II
 Mercury oleate 6.1 II
 Mercury oxide 6.1 II
 Mercury oxycyanide, desensitized 6.1 II
 Mercury potassium iodide 6.1 II
 Mercury salicylate 6.1 II
 Mercury sulfates 6.1 II
 Mercury thiocyanate 6.1 II
 Metal carbonyls, n.o.s. 6.1 I
 Metal carbonyls, n.o.s. 6.1 II
 Methanesulfonyl chloride 6.1 I
 Methyl bromide 2.3
 Methyl bromide and ethylene dibromide mixtures, liquid 6.1 I
 Methyl bromoacetate 6.1 II
 Methyl chloroacetate 6.1 I
 Methyl chloroformate 6.1 I
 Methyl chloromethyl ether 6.1 I
 Methyl iodide 6.1 I
 Methyl isocyanate 6.1 I
 Methyl isothiocyanate 6.1 I
 Methyl mercaptan 2.3
 Methyl orthosilicate 6.1 I
 Methyl phosphonic dichloride 6.1 I
 Methyl phosphonous dichloride, [pyrophoric liquid] 6.1 I
 Methyl vinyl ketone, stabilized 6.1 I
 Methylchlorosilane 2.3
 Methylchloroarsine 6.1 I
 Methylhydrazine 6.1 I
 Mines [with bursting charge] 1.1D
 Mines [with bursting charge] 1.1F
 Mines [with bursting charge] 1.2D
 Mines [with bursting charge] 1.2F
 Motor fuel anti-knock mixtures 6.1 I
 N,N-Dimethylaniline 6.1 II
 Naphthylthiourea 6.1 II
 Naphthylurea 6.1 II
 n-Butyl chloroformate 6.1 I
 n-Butyl isocyanate 6.1 I
 N-Butylaniline 6.1 II
 N-Ethyltoluidines 6.1 II
 Nickel carbonyl 6.1 I

Nickel cyanide 6.1 II
 Nicotine 6.1 II
 Nicotine compounds, liquid, n.o.s. [or] Nicotine preparations, liquid, n.o.s. 6.1 I
 Nicotine compounds, liquid, n.o.s. [or] Nicotine preparations, liquid, n.o.s. 6.1 II
 Nicotine compounds, solid, n.o.s. [or] Nicotine preparations, solid, n.o.s. 6.1 I
 Nicotine compounds, solid, n.o.s. [or] Nicotine preparations, solid, n.o.s. 6.1 II
 Nicotine hydrochloride [or] Nicotine hydrochloride solution 6.1 II
 Nicotine salicylate 6.1 II
 Nicotine sulfate, [solid] 6.1 II
 Nicotine sulfate, [solution] 6.1 II
 Nicotine tartrate 6.1 II
 Nitric oxide and dinitrogen tetroxide mixtures [or] Nitric oxide and nitrogen dioxide mixtures 2.3
 Nitric oxide, compressed 2.3
 Nitriles, toxic, flammable, n.o.s. 6.1 I
 Nitriles, toxic, flammable, n.o.s. 6.1 II
 Nitriles, toxic, n.o.s. 6.1 I
 Nitriles, toxic, n.o.s. 6.1 II
 Nitro urea 1.1D
 Nitroanilines ([o-; m-; p-;]) 6.1 II
 Nitrobenzene 6.1 II
 Nitrobenzotrifluorides 6.1 II
 Nitrocellulose, [dry or wetted with less than 25 percent water (or alcohol), by mass] 1.1D
 Nitrocellulose, [unmodified or plasticized with less than 18 percent plasticizing substance, by mass] 1.1D
 Nitrocellulose, plasticized [with not less than 18 percent plasticizing substance, by mass] 1.3C
 Nitrocellulose, wetted [with not less than 25 percent alcohol, by mass] 1.3C
 Nitrogen trioxide 2.3
 Nitroglycerin, desensitized [with not less than 40 percent nonvolatile water insoluble phlegmatizer, by mass] 1.1D
 Nitroglycerin, solution in alcohol, [with more than 1 percent but not more than 10 percent nitroglycerin] 1.1D
 Nitroguanidine [or] Picrite, [dry or wetted with less than 20 percent water, by mass] 1.1D
 Nitrostarch, [dry or wetted with less than 20 percent water, by mass] 1.1D
 Nitrosyl chloride 2.3
 Nitrotoluenes, [liquid] [o-; m-; p-;] 6.1 II
 Nitrotoluenes, [solid] [m-, or p-] 6.1 II
 Nitrotriazolone [or] NTO 1.1D
 Nitroxyls, (o-; m-; p-) 6.1 II
 N-n-Butyl imidazole 6.1 II
 n-Propyl chloroformate 6.1 I
 n-Propyl isocyanate 6.1 I
 Octolite [or] Octol, [dry or wetted with less than 15 percent water, by mass] 1.1D
 Octonal 1.1D
 Oil gas, compressed 2.3
 Organic phosphate, mixed with compressed gas [or] Organic phosphate compound, mixed with compressed gas [or]
 Organic phosphorus compound, mixed with compressed gas 2.3
 Organoarsenic compound, n.o.s. 6.1 I
 Organoarsenic compound, n.o.s. 6.1 II
 Organochlorine pesticides, liquid, toxic 6.1 I
 Organochlorine pesticides, liquid, toxic 6.1 II
 Organochlorine pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C] 6.1 I
 Organochlorine pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C] 6.1 II
 Organochlorine pesticides, solid toxic 6.1 I
 Organochlorine pesticides, solid toxic 6.1 II
 Organometallic compound, toxic n.o.s. 6.1 I
 Organometallic compound, toxic n.o.s. 6.1 II
 Organophosphorus compound, toxic n.o.s. 6.1 I
 Organophosphorus compound, toxic n.o.s. 6.1 II
 Organophosphorus compound, toxic, flammable, n.o.s. 6.1 I

Organophosphorus compound, toxic, flammable, n.o.s. 6.1 II
 Organophosphorus pesticides, liquid, toxic 6.1 I
 Organophosphorus pesticides, liquid, toxic 6.1 II
 Organophosphorus pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C] 6.1 I
 Organophosphorus pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C] 6.1 II
 Organophosphorus pesticides, solid, toxic 6.1 I
 Organophosphorus pesticides, solid, toxic 6.1 II
 Organotin compounds, liquid, n.o.s. 6.1 I
 Organotin compounds, liquid, n.o.s. 6.1 II
 Organotin compounds, solid, n.o.s. 6.1 I
 Organotin compounds, solid, n.o.s. 6.1 II
 Organotin pesticides, liquid, toxic 6.1 I
 Organotin pesticides, liquid, toxic 6.1 II
 Organotin pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C] 6.1 I
 Organotin pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C] 6.1 II
 Organotin pesticides, solid, toxic 6.1 I
 Organotin pesticides, solid, toxic 6.1 II
 Osmium tetroxide 6.1 I
 Oxygen difluoride, compressed 2.3
 Parathion and compressed gas mixture 2.3
 Pentachloroethane 6.1 II
 Pentachlorophenol 6.1 II
 Pentaerythrite tetranitrate, wetted [or] Pentaerythritol tetranitrate, wetted, [or] PETN, wetted [with not less than 25 percent water, by mass, or] Pentaerythrite tetranitrate, [or] Pentaerythritol tetranitrate [or] PETN, desensitized [with not less than 15 percent phlegmatizer by mass] 1.1D
 Pentolite, [dry or wetted with less than 15 percent water, by mass] 1.1D
 Perchloromethyl mercaptan 6.1 I
 Perchloryl fluoride 2.3
 Pesticides, liquid, toxic, flammable, n.o.s. [flash point not less than 23 degrees C] 6.1 I
 Pesticides, liquid, toxic, flammable, n.o.s. [flash point not less than 23 degrees C] 6.1 II
 Pesticides, liquid, toxic, n.o.s. 6.1 I
 Pesticides, liquid, toxic, n.o.s. 6.1 II
 Pesticides, solid, toxic, n.o.s. 6.1 I
 Pesticides, solid, toxic, n.o.s. 6.1 II
 Phenacyl bromide 6.1 II
 Phenol solutions 6.1 II
 Phenol, molten 6.1 II
 Phenol, solid 6.1 II
 Phenoxyacetic acid derivative pesticide, liquid, toxic 6.1 I
 Phenoxyacetic acid derivative pesticide, liquid, toxic 6.1 II
 Phenoxyacetic acid derivative pesticide, liquid, toxic, flammable, [flash point not less than 23 degrees C] 6.1 I
 Phenoxyacetic acid derivative pesticide, liquid, toxic, flammable, [flash point not less than 23 degrees C] 6.1 II
 Phenoxyacetic acid derivative pesticide, solid, toxic 6.1 I
 Phenoxyacetic acid derivative pesticide, solid, toxic 6.1 II
 Phenyl chloroformate 6.1 II
 Phenyl isocyanate 6.1 I
 Phenyl mercaptan 6.1 I
 Phenyl urea pesticides, liquid, toxic 6.1 I
 Phenyl urea pesticides, liquid, toxic 6.1 II
 Phenylcarbylamine chloride 6.1 I
 Phenylhydrazine 6.1 II
 Phenylmercuric acetate 6.1 II
 Phenylmercuric compounds, n.o.s. 6.1 I
 Phenylmercuric compounds, n.o.s. 6.1 II

Phenylmercuric hydroxide 6.1 II
 Phenylmercuric nitrate 6.1 II
 Phosgene 2.3
 Phosphine 2.3
 Phosphorus pentafluoride, compressed 2.3
 Phosphorus trichloride 6.1 I
 Potassium arsenate 6.1 II
 Potassium arsenite 6.1 II
 Potassium cuprocyanide 6.1 II
 Potassium cyanide 6.1 I
 Potassium fluoroacetate 6.1 I
 Potassium metavanadate 6.1 II
 Powder cake, wetted [or] Powder paste, wetted [with not less than 17 percent alcohol by mass] 1.1C
 Powder cake, wetted [or] Powder paste, wetted [with not less than 25 percent water, by mass] 1.3C
 Powder, smokeless 1.1C
 Powder, smokeless 1.3C
 Primers, cap type 1.1B
 Primers, tubular 1.3G
 Projectiles, [inert, with tracer] 1.3G
 Projectiles, [with burster or expelling charge] 1.2D
 Projectiles, [with burster or expelling charge] 1.2F
 Projectiles, [with burster or expelling charge] 1.2G
 Projectiles, [with bursting charge] 1.1D
 Projectiles, [with bursting charge] 1.1F
 Projectiles, [with bursting charge] 1.2D
 Projectiles, [with bursting charge] 1.2F
 Propellant, liquid 1.1C
 Propellant, liquid 1.3C
 Propellant, solid 1.1C
 Propellant, solid 1.3C
 Propylene chlorohydrin 6.1 II
 Pyrethroid pesticide, liquid toxic 6.1 I
 Pyrethroid pesticide, liquid toxic 6.1 II
 Pyrethroid pesticide, liquid, toxic, flammable, [flash point not less than 23 degrees C] 6.1 I
 Pyrethroid pesticide, liquid, toxic, flammable, [flash point not less than 23 degrees C] 6.1 II
 Pyrethroid pesticide, solid, toxic 6.1 I
 Pyrethroid pesticide, solid, toxic 6.1 II
 RDX and HMX mixtures, wetted [with not less than 15 percent water by mass] [or] RDX and HMX mixtures, desensitized [with not less than 10 percent phlegmatizer by mass] 1.1D
 Rocket motors 1.1C
 Rocket motors 1.2C
 Rocket motors 1.3C
 Rocket motors with hypergolic liquids [with or without an expelling charge] 1.2L
 Rocket motors with hypergolic liquids [with or without an expelling charge] 1.3L
 Rocket motors, liquid fueled 1.2J
 Rocket motors, liquid fueled 1.3J
 Rockets, [with bursting charge] 1.1E
 Rockets, [with bursting charge] 1.1F
 Rockets, [with bursting charge] 1.2E
 Rockets, [with bursting charge] 1.2F
 Rockets, [with expelling charge] 1.2C
 Rockets, [with expelling charge] 1.3C
 Rockets, [with inert head] 1.2C
 Rockets, [with inert head] 1.3C
 Rockets, line-throwing 1.2G
 Rockets, line-throwing 1.3G

Rockets, liquid fueled [with bursting charge] 1.1J
 Rockets, liquid fueled [with bursting charge] 1.2J
 sec-Butyl chloroformate 6.1 I
 Selenates [or] Selenites 6.1 I
 Selenium compound, n.o.s. 6.1 I
 Selenium compound, n.o.s. 6.1 II
 Selenium disulfide 6.1 II
 Selenium hexafluoride 2.3
 Signals, distress, [ship] 1.1G
 Signals, distress, [ship] 1.3G
 Signals, railway track, explosive 1.1G
 Signals, railway track, explosive 1.3G
 Signals, smoke 1.1G
 Signals, smoke 1.2G
 Signals, smoke 1.3G
 Silicon tetrafluoride, compressed 2.3
 Silver arsenite 6.1 II
 Silver cyanide 6.1 II
 Sodium ammonium vanadate 6.1 II
 Sodium arsenate 6.1 II
 Sodium arsenite, aqueous solutions 6.1 II
 Sodium arsenite, solid 6.1 II
 Sodium azide 6.1 II
 Sodium cacodylate 6.1 II
 Sodium cuprocyanide, solid 6.1 I
 Sodium cuprocyanide, solution 6.1 I
 Sodium cyanide 6.1 I
 Sodium dinitro-o-cresolate, [dry or wetted with less than 15 percent water, by mass] 1.3C
 Sodium fluoroacetate 6.1 I
 Sodium pentachlorophenate 6.1 II
 Sodium picramate, [dry or wetted with less than 20 percent water, by mass] 1.3C
 Solids containing toxic liquid, n.o.s. 6.1 II
 Sounding devices, explosive 1.1D
 Sounding devices, explosive 1.1F
 Sounding devices, explosive 1.2D
 Sounding devices, explosive 1.2F
 Stibine 2.3
 Strontium arsenite 6.1 II
 Strychnine [or] Strychnine salts 6.1 I
 Substances, explosive, n.o.s. 1.1A
 Substances, explosive, n.o.s. 1.1C
 Substances, explosive, n.o.s. 1.1D
 Substances, explosive, n.o.s. 1.1G
 Substances, explosive, n.o.s. 1.1L
 Substances, explosive, n.o.s. 1.2L
 Substances, explosive, n.o.s. 1.3C
 Substances, explosive, n.o.s. 1.3G
 Substances, explosive, n.o.s. 1.3L
 Substituted nitrophenol pesticides, liquid, toxic 6.1 I
 Substituted nitrophenol pesticides, liquid, toxic 6.1 II
 Substituted nitrophenol pesticides, liquid, toxic, flammable [flash point not less than 23 degrees C] 6.1 I
 Substituted nitrophenol pesticides, liquid, toxic, flammable [flash point not less than 23 degrees C] 6.1 II
 Substituted nitrophenol pesticides, solid, toxic 6.1 I
 Substituted nitrophenol pesticides, solid, toxic 6.1 II
 Sulfur dioxide 2.3
 Sulfur tetrafluoride 2.3

Sulfuryl fluoride 2.3
 Tear gas candles 6.1 II
 Tear gas devices [with more than 2 percent tear gas substances, by mass] 6.1 I
 Tear gas devices [with more than 2 percent tear gas substances, by mass] 6.1 II
 Tear gas substances, liquid, n.o.s. 6.1 I
 Tear gas substances, liquid, n.o.s. 6.1 II
 Tear gas substances, solid, n.o.s. 6.1 I
 Tear gas substances, solid, n.o.s. 6.1 II
 Tellurium compound, n.o.s. 6.1 I
 Tellurium compound, n.o.s. 6.1 II
 Tellurium hexafluoride 2.3
 tert-Butyl isocyanate 6.1 I
 Tetrachloroethane 6.1 II
 Tetraethyl dithiopyrophosphate 6.1 II
 Tetranitroaniline 1.1D
 Thallium compounds, n.o.s. 6.1 II
 Thallium nitrate 6.1 II
 Thiocarbamate pesticide, liquid, toxic 6.1 I
 Thiocarbamate pesticide, liquid, toxic 6.1 II
 Thiocarbamate pesticide, liquid, toxic, flammable, [flash point not less than 23 degrees C] 6.1 I
 Thiocarbamate pesticide, liquid, toxic, flammable, [flash point not less than 23 degrees C] 6.1 II
 Thiocarbamate pesticides, solid, toxic 6.1 I
 Thiocarbamate pesticides, solid, toxic 6.1 II
 Thioglycol 6.1 II
 Thiolactic acid 6.1 II
 Thiophosgene 6.1 II
 Toluene diisocyanate 6.1 II
 Toluidines [liquid] 6.1 II
 Toluidines [solid] 6.1 II
 Torpedoes [with bursting charge] 1.1D
 Torpedoes [with bursting charge] 1.1E
 Torpedoes [with bursting charge] 1.1F
 Torpedoes, liquid fueled, [with inert head] 1.3J
 Torpedoes, liquid fueled, [with or without bursting charge] 1.1J
 Toxic liquid, corrosive, inorganic, n.o.s. 6.1 I
 Toxic liquid, corrosive, inorganic, n.o.s. 6.1 II
 Toxic liquid, corrosive, inorganic, n.o.s. [Inhalation Hazard, Packing Group I, Zone A] 6.1 I
 Toxic liquid, corrosive, inorganic, n.o.s. [Inhalation Hazard, Packing Group I, Zone B] 6.1 I
 Toxic liquid, inorganic, n.o.s. 6.1 I
 Toxic liquid, inorganic, n.o.s. 6.1 II
 Toxic liquid, inorganic, n.o.s. [Inhalation Hazard, Packing Group I, Zone A] 6.1 I
 Toxic liquid, inorganic, n.o.s. [Inhalation Hazard, Packing Group I, Zone B] 6.1 I
 Toxic liquids, corrosive, organic, n.o.s. 6.1 I
 Toxic liquids, corrosive, organic, n.o.s. 6.1 II
 Toxic liquids, corrosive, organic, n.o.s., [inhalation hazard, Packing Group I, Zone A] 6.1 I
 Toxic liquids, corrosive, organic, n.o.s., [inhalation hazard, Packing Group I, Zone B] 6.1 I
 Toxic liquids, flammable, organic, n.o.s. 6.1 I
 Toxic liquids, flammable, organic, n.o.s. 6.1 II
 Toxic liquids, flammable, organic, n.o.s., [inhalation hazard, Packing Group I, Zone A] 6.1 I
 Toxic liquids, flammable, organic, n.o.s., [inhalation hazard, Packing Group I, Zone B] 6.1 I
 Toxic liquids, oxidizing, n.o.s. 6.1 I
 Toxic liquids, oxidizing, n.o.s. 6.1 II
 Toxic liquids, oxidizing, n.o.s. [Inhalation hazard, Packing Group I, Zone A] 6.1 I
 Toxic liquids, oxidizing, n.o.s. [Inhalation Hazard, Packing Group I, Zone B] 6.1 I

Toxic liquids, water-reactive, n.o.s. 6.1 I
 Toxic liquids, water-reactive, n.o.s. 6.1 II
 Toxic liquids, water-reactive, n.o.s. [Inhalation hazard, packing group I, Zone A] 6.1 I
 Toxic liquids, water-reactive, n.o.s. [Inhalation hazard, packing group I, Zone B] 6.1 I
 Toxic solid, corrosive, inorganic, n.o.s. 6.1 I
 Toxic solid, corrosive, inorganic, n.o.s. 6.1 II
 Toxic solid, inorganic, n.o.s. 6.1 I
 Toxic solid, inorganic, n.o.s. 6.1 II
 Toxic solids, corrosive, organic, n.o.s. 6.1 I
 Toxic solids, corrosive, organic, n.o.s. 6.1 II
 Toxic solids, flammable, organic, n.o.s. 6.1 I
 Toxic solids, flammable, organic, n.o.s. 6.1 II
 Toxic solids, organic, n.o.s. 6.1 I
 Toxic solids, organic, n.o.s. 6.1 II
 Toxic solids, oxidizing, n.o.s. 6.1 I
 Toxic solids, oxidizing, n.o.s. 6.1 II
 Toxic solids, self-heating, n.o.s. 6.1 I
 Toxic solids, self-heating, n.o.s. 6.1 II
 Toxic solids, water-reactive, n.o.s. 6.1 I
 Toxic solids, water-reactive, n.o.s. 6.1 II
 Toxic, liquids, organic, n.o.s. 6.1 I
 Toxic, liquids, organic, n.o.s. 6.1 II
 Toxic, liquids, organic, n.o.s. [Inhalation hazard, Packing Group I, Zone A] 6.1 I
 Toxic, liquids, organic, n.o.s. [Inhalation hazard, Packing Group I, Zone B] 6.1 I
 Tracers for ammunition 1.3G
 Triazine pesticides, liquid, toxic 6.1 I
 Triazine pesticides, liquid, toxic 6.1 II
 Triazine pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C] 6.1 I
 Triazine pesticides, liquid, toxic, flammable, [flash point not less than 23 degrees C] 6.1 II
 Triazine pesticides, solid, toxic 6.1 I
 Triazine pesticides, solid, toxic 6.1 II
 Tributylamine 6.1 II
 Trichlorobutene 6.1 II
 Tricresyl phosphate [with more than 3 percent ortho isomer] 6.1 II
 Trifluoroacetyl chloride 2.3
 Trifluorochloroethylene, stabilized 2.3
 Trimethoxysilane 6.1 I
 Trimethylacetyl chloride 6.1 I
 Trinitroaniline [or] Picramide 1.1D
 Trinitroanisole 1.1D
 Trinitrobenzene, [dry or wetted with less than 30 percent water, by mass] 1.1D
 Trinitrobenzenesulfonic acid 1.1D
 Trinitrobenzoic acid, [dry or wetted with less than 30 percent water, by mass] 1.1D
 Trinitrochlorobenzene [or] Picryl chloride 1.1D
 Trinitrofluorenone 1.1D
 Trinitro-meta-cresol 1.1D
 Trinitronaphthalene 1.1D
 Trinitrophenetole 1.1D
 Trinitrophenol [or] Picric acid, [dry or wetted with less than 30 percent water, by mass] 1.1D
 Trinitrophenylmethylnitramine [or] Tetryl 1.1D
 Trinitroresorcinol [or] Styphnic acid, [dry or wetted with less than 20 percent water, or mixture of alcohol and water, by mass] 1.1D
 Trinitroresorcinol, wetted [or] Styphnic acid, wetted [with not less than 20 percent water, or mixture of alcohol and water by mass] 1.1D
 Trinitrotoluene [or] TNT, [dry or wetted with less than 30 percent water, by mass] 1.1D

Trinitrotoluene and Trinitrobenzene mixtures [or] TNT and trinitrobenzene mixtures [or] TNT and hexanitrostilbene mixtures [or] Trinitrotoluene and hexanitrostilbene mixtures 1.1D
Trinitrotoluene mixtures containing Trinitrobenzene and Hexanitrostilbene [or] TNT mixtures containing trinitrobenzene and hexanitrostilbene 1.1D
Tris-(1-aziridinyl)phosphine oxide, solution 6.1 II
Tritonal 1.1D
Tungsten hexafluoride 2.3
Urea nitrate, [dry or wetted with less than 20 percent water, by mass] 1.1D
Vanadium compound, n.o.s. 6.1 I
Vanadium compound, n.o.s. 6.1 II
Vanadyl sulfate 6.1 II
Vinyl chloroacetate 6.1 II
Vinylpyridines, stabilized 6.1 II
Warheads, rocket [with bursting charge] 1.1D
Warheads, rocket [with bursting charge] 1.1F
Warheads, rocket [with bursting charge] 1.2D
Warheads, torpedo [with bursting charge] 1.1D
Xylenols 6.1 II
Xylidines, solid 6.1 II
Xylidines, solution 6.1 II
Xylyl bromide 6.1 II
Zinc arsenate [or] Zinc arsenite [or] Zinc arsenate and zinc arsenite mixtures 6.1 II
Zinc cyanide 6.1 I
Zirconium picramate, [dry or wetted with less than 20 percent water, by mass] 1.3C