STATE OF WEST VIRGINIA

OFFICE OF THE SECRETARY OF STATE

CHARLESTON 25305

A. JAMES MANCHIN
SECRETARY OF STATE

STATE REGISTER FILING

I, Carl G. Beard, II, Secretary
Title or Position

Air Pollution Control Commission, hereby submit to record in
Department or Division

the State Register on 8 1/2 x 11" paper two (2) copies of

(X) proposed rules and regulations concerning topics of material not covered by existing rules and regulations;

( ) proposed rules and regulations superseding rules and regulations already on file;

(X) notice of hearing; December 17, 1981

( ) findings and determinations;

( ) rules and regulations; or

( ) other - specify (

This filing pertains to

FILED IN THE OFFICE OF
A. JAMES MANCHIN
SECRETARY OF STATE
THIS DATE 10-16-81
Administrative Law Division

Chapter 16
Article 20
Series XXV
Section
Page No

( ) proposed rules and regulations are required to go to Legislative Rule Making Committee;

( ) proposed rules and regulations are excluded from Legislative Rule Making Committee;

October 16, 1981
Date Submitted

Carl G. Beard II
Signature of Person Authori[illegible]
this Filing

WEST VIRGINIA
AIR POLLUTION CONTROL COMMISSION

NOTICE OF PUBLIC HEARING

Pursuant to Chapter 16, Article 20 and Chapter 29A of the Code of West Virginia, notice is hereby given that a public hearing will be held by the West Virginia Air Pollution Control Commission concerning proposed Regulation XXV - "To Prevent and Control Air Pollution From Hazardous Waste Treatment, Storage, or Disposal Facilities". The hearing will be held on Thursday, December 17, 1981, starting at 9:15 a.m. in the House of Delegates Chambers of the State Capitol Building, Charleston, Kanawha County, West Virginia.

Carl G. Beard, II
Secretary
West Virginia Air Pollution
Control Commission

PROPOSED REGULATION

APCC
Adm. Reg. 16-20
Series XXV

Index

WEST VIRGINIA ADMINISTRATIVE REGULATIONS

Subject: Regulation XXV - To Prevent and Control Air Pollution From Hazardous Waste Treatment, Storage, or Disposal Facilities.

INDEX.

WEST VIRGINIA ADMINISTRATIVE REGULATIONS
Air Pollution Control Commission

Chapter 16-20
Series XXV
(1981)

Subject: Regulation XXV- To Prevent and Control Air Pollution From Hazardous Waste Treatment, Storage, or Disposal Facilities.

Section 1. Intent and Purpose

1.01. It is the intent and purpose of this regulation to establish a program of regulation over the treatment, storage, and disposal of hazardous wastes in order to achieve and maintain such levels of air quality as will protect the public health and safety from the effects of improper, inadequate, or unsound treatment, storage, or disposal of hazardous wastes.

1.02. All persons engaged in the treatment, storage, or disposal of hazardous waste shall give careful consideration to the effects of the resultant emissions on the air quality of the area(s) affected by such treatment, storage or disposal. No person shall cause to be discharged into the air any hazardous air pollutant in such quantities as to cause ambient air concentrations that may cause, or contribute to a harmful effect.

1.03. Neither compliance with the provisions of this Regulation nor the absence of specific language to cover particular situations constitutes approval or implies consent or condonement of any emission which is released in any locality in such manner or amount as to cause or contribute to undesirable levels of air contaminants. Neither does it exempt nor excuse anyone from complying with other applicable laws, ordinances, regulations or orders of governmental entities having jurisdiction.

Section 2. Definitions

2.01. "Air Pollutants" shall mean solids, liquids or gases which, if discharged into the air, may result in statutory air pollution.

2.02. "Air Pollution", 'statutory air pollution' shall have the meaning ascribed to it in Chapter 16, Article 20, Section 2, of the Code of West Virginia, as amended.

2.03. "Air Pollution Control Equipment" shall mean any equipment used for collecting or converting gasborne particulate or gaseous materials for the purpose of preventing or reducing emissions of these materials into the open air from hazardous waste treatment, storage or disposal facilities.

2.04. "Commission" shall mean the West Virginia Air Pollution Control Commission.

2.05. "Constituent" 'hazardous waste constituent' shall mean a compound listed in Table VII or any other compound so defined by the Commission and added to Table VII. Substances will be listed in Table VII only if they have been shown in scientific studies to have toxic, carcinogenic, mutagenic, or teratogenic effects on humans or other life forms.

2.06. "CFR" shall mean the Code of Federal Regulations published by the Office of the Federal Register National Archives and Records Service, General Services Administration.

2.07. "Director" shall mean the director of the West Virginia Air Pollution Control Commission.

2.08. "Discard" shall mean abandoned by being:

(a) disposed of; or

(b) physically, chemically, or biologically treated in lieu of or prior to disposal.

2.09. "Disposal" shall mean the discharge, deposit, injection, spilling, leaking or placing of any hazardous waste into or on any land or water so that such hazardous waste or any constituent thereof may enter the environment or be emitted into the air.

2.10. "Disposal Facility" shall mean a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure.

2.11. "EPA" shall mean the United States Environmental Protection Agency.

2.12. "Fuel Burning Unit" shall mean any furnace boiler, apparatus, device, mechanism, stack, or structure used in the process of burning fuel or other combustible material for the primary purpose of producing heat or power by indirect heat exchange.

2.13. "Hazardous Combustion By-Products" shall mean those compounds formed by thermal cracking or partial oxidation of a hazardous waste feed which are emitted or may be emitted from a hazardous waste treatment process or disposal facility for which the Commission may specify emission standards, performance standards, operating requirements or other provisions applicable under this regulation.

2.14. "Hazardous Waste" shall mean a solid, liquid, or gas or combination of, which because of its quantity, concentration, or physical or infectious characteristics may (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 the environment when improperly treated, stored, transported, disposed of or otherwise managed, or as defined in Section 3 of this regulation.

2.15. "Incinerator" shall mean an enclosed thermal treatment device using controlled flame combustion, the primary purpose of which is to thermally break down hazardous waste.

2.16. "Manufacturing By-Product" shall mean a material that is not one of the primary products of a particular manufacturing operation, is a secondary and incidental product of the particular operation and would not be solely and separately manufactured. The term does not include an intermediate manufacturing product which is typically processed through the next step of the process within a short time.

2.17. "LC 50" shall mean the calculated concentration of a substance in air, exposure to which for a specific length of time is expected to cause the death of 50 percent of an entire defined experimental population.

2.18. "LD 50" shall mean the calculated dose of a substance which is expected to cause the death of 50 percent of an entire defined experimental population.

2.19. "Opacity" shall mean the degree to which smoke and/or particulate matter emissions reduce the transmission of light and obscure the view of an object in the background.

2.20. "Open Burning" shall mean the combustion, or partial combustion, of any material without the following characteristics:

(a) Control of combustion air to maintain adequate temperature for efficient combustion,

(b) Containment of the combustion-reaction system in an enclosed device to provide sufficient residence time and mixing for complete combustion, and

(c) Control of emissions of the gaseous combustion products.

2.21. "Operator" shall mean the person(s) responsible for the overall operation of a treatment, storage, or disposal facility.

2.22. "Owner" shall mean the person who owns a treatment, storage, or disposal facility or part of such facility or the real property upon which such facility is located.

2.23. "Particulate Matter" shall mean any material, except uncombined water, that exists in a finely divided form as a liquid or solid.

2.24. "Person" shall mean any and all persons, natural or artificial, including the State of West Virginia, or any other state, the United States of America, any municipal, statutory, public, or private corporation organized or existing under the laws of this or any other state or country, and any firm, partnership or association of whatever nature.

2.25. "Reconstruct" shall mean modification made to a facility such that the fixed capital cost of new components exceeds 50 percent of the fixed capital cost of a comparable entirely new treatment, storage, or disposal facility.

2.26. "Ringelmann Smoke Chart" shall mean the Ringelmann's Scale for Grading the Density of Smoke, published by the U. S. Bureau of Mines, or any chart, recorder, indicator, device or method which is a standardized method for the measurement of smoke density and is approved by the Commission as the equivalent of said Ringelmann Scale.

2.27. "Smoke" shall mean small gasborne and airborne particulate matter emitted as the result of the combustion of hazardous waste in sufficient numbers to be visible.

2.28. "Solid Waste" shall mean any solid, liquid, semi-solid or gaseous material, resulting from industrial, commercial, mining, or agricultural operations, or from community activities which:

(a) Is discarded or is being accumulated, stored or physically, chemically, or biologically treated prior to being discarded; or

(b) Has served its original intended use and is discarded; or

(c) Is a manufacturing by-product and is discarded.

2.29. "Steady State" shall mean that all conditions at all points in the thermal treatment process are constant with time.

2.30. "Storage" shall mean the holding of hazardous waste for a temporary period at the end of which the hazardous waste is treated, disposed of, or stored otherwise.

2.31. "Tank" shall mean a stationary device designed to contain an accumulation of hazardous waste which is constructed primarily of non-earthen materials (e.g., wood, steel, plastic) which provided structural support.

2.32. "Thermal Treatment" shall mean the treatment of hazardous waste in a device which uses elevated temperature as the primary means to change the chemical, physical, or

biological character or composition of the hazardous waste and results in the emission of pollutants to the atmosphere. Examples of thermal treatment processes are incineration, pyrolysis, furnace and boiler oxidation.

2.33. "Treatment" shall mean any method, technique, or process including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material from the waste, or as to render waste nonhazardous or less hazardous; safer to transport, store, or dispose of; or amendable for recovery, amendable for storage, or reduced in volume.

Section 3. Criteria for Identifying Solid Waste as Hazardous Waste

3.01. A solid waste is a hazardous waste if:

(a) It is not excluded from regulation as a hazardous waste under Section 4; or

(b) It meets any of the following criteria:

(1) It is listed in Section 7, or

(2) It is a mixture of solid waste and one or more hazardous wastes listed in Section 7, or

(3) It exhibits any of the characteristics of hazardous waste identified in Section 6, or

(4) It has been found to be fatal to humans in low doses or, in the absence of data on human toxicity,

it has been shown in studies to have an oral LD 50 toxicity (rat) of less than 50 milligrams per kilogram, an inhalation LC toxicity (rat) of less than 2 milligrams per kilograms per liter, or a dermal LD 50 toxicity (rabbit) of less than 200 milligrams per kilogram or is otherwise capable of causing or significantly contributing to an increase in serious irreversible, or incapacitating reversible, illness. (Waste listed in accordance with these criteria will be designated Acute Hazardous Waste); or

(5) It contains any of the toxic constituents listed in Table VII and, after considering any of the following factors, the Commission concludes that the waste is capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed:

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

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

(iii)The potential of the constituent

or any toxic degradation product of the constituent to migrate from the waste into the environment.

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

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

(vi) The degree to which the constituent or any degradation product of the constituent bio-accumulates in ecosystems,

(vii)The plausible types of improper management to which the waste could be subjected,

(viii) The quantities of the waste generated at individual generation sites or on a regional or national basis,

(ix) The nature and severity of the human health and environmental damage that has occurred as a result of the improper management of wastes containing the constituent,

(x) Action taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste constituent, or

(xi) Such other factors as may be appropriate.

3.02. A solid waste which is not excluded from regulation under Section 4 becomes a hazardous waste when any of the following events occur:

(a) In the case of a waste listed in Section 7, when the waste first meets the listing description set forth in Section 7; or

(b) In the case of a mixture of solid waste and one or more listed hazardous wastes, when a hazardous waste listed in Section 7 is first added to the solid waste; or

(c) In the case of any other waste (including a waste mixture) when the waste exhibits any of the characteristics identified in Section 6.

3.03. The Commission may list classes or types of solid waste as hazardous waste if they have reason to believe that individual wastes, within the class or type of waste, typically or frequently are hazardous under the definition of hazardous waste.

Section 4. Exclusions

The following solid wastes are not hazardous wastes:

(a) Household waste, including household waste that has been collected, treated, stored, disposed of, recovered, (e.g. refuse-derived fuel) or reused. "Household waste" shall mean any waste

material (including garbage, trash, and sanitary waste in septic tanks) derived from households (including single and multiple residences, hotels, and motels); and

(b) Solid Wastes generated by any of the following:

(1) The growing and harvesting of agricultural crops; or

(2) The raising of animals, including animal manures; or

(3) Extraction, beneficiation, and processing of ores, coal, and minerals.

(4) Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels.

(5) Drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas or geothermal energy.

Section 5. Exemptions

The Commission may exempt a person from all requirements of this regulation except periodic waste analysis and closure if:

(a) The waste to be thermally treated (1) is listed as a hazardous waste in Section 7 of this regulation only because it is ignitable; or (2) has been tested against the characteristics of hazardous waste under Section 6 of this regulation and it meets only the ignitability characteristics; and

(b) The waste analysis shows none of the hazardous constituents listed in Table VII.

Section 6. Characteristics of Hazardous Waste

6.01. A hazardous waste which is identified by a characteristic in this section, but is not listed as a hazardous waste in Section 7, is assigned the Hazardous Waste Number set forth in the respective characteristic in this section. This number shall be used for complying with the record keeping and reporting requirements of this regulation.

6.02. For purposes of this section, the Director will consider a sample obtained using any applicable EPA approved sampling method to be a representative sample.

6.03. A solid waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties:

(a) It is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume, and has a flashpoint less than 60° C. (140°F.), as determined by Pensky-Martens Closed Cup Tester,

using the test method specified in ASTM Standard D-93-79 or D-93-80, or a Setaflash Closed Cup Tester, using the test method specified in ASTM Standard D-3278-78, or as determined by an equivalent test method approved by the Commission; or

(b) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard; or

(c) It is an ignitable compressed gas as defined in 49 CFR 173.300, as amended December 1, 1980, and as determined by the test methods described in that regulation or equivalent test methods approved by the Commission; or

(d) It is an oxidizer as defined in 49 CFR 173.151 and amended as of December 1, 1980.

A solid waste that exhibits the characteristics of ignitability, but is not listed as a hazardous waste by the Commission, has the Hazardous Waste Number of D001.

6.04. A solid waste exhibits the characteristics of corrosivity if a representative sample of the waste has either of the following properties:

(a) It is aqueous and has a pH less than or

equal to 2 or greater than or equal to 12.5, as determined by a pH meter using either the test method specified as 5.2 in EPA's "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods", as amended July 7, 1981, or an equivalent test method approved by the Commission; or

(b) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55°C. (130°F.) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69 as standardized in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods", or an equivalent test method approved by the Commission.

A solid waste that exhibits the characteristics of corrosivity, but is not listed as a hazardous waste by the Commission, has the Hazardous Waste Number of D002.

6.05. A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties:

(a) It is normally unstable and readily undergoes violent change without detonating; or

(b) It reacts violently with water; or

(c) It forms potentially explosive mixtures with water; or

(d) When mixed with water, it generates toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment; or

(e) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment; or

(f) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement; or

(g) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure: or

(h) It is a forbidden explosive as defined in 49 CFR 173.51, as amended of December 1, 1980, or a Class A explosive as defined in 49 CFR 173.53, amended as of December 1, 1980, or a Class B explosive as defined in 49 CFR 173.88, amended as of December 1, 1980.

A solid waste that exhibits the characteristic of reactivity, but is not listed as a hazardous waste by the Commission, has the Hazardous Waste Number of D003.

6.06. A solid waste exhibits the characteristic of EP Toxicity if, using the test methods listed in Appendix II of 40 CFR, Part 261, as amended on July 7, 1981, or equivalent methods approved by the Commission, the extract from a representative sample of the waste contains any of the contaminants listed in Table I at a concentration equal to or greater than the respective value given in that table. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering, is considered to be the extract for the purposes of this subsection.

A solid waste that exhibits the characteristic of EP Toxicity, but is not listed as a hazardous waste by the Commission has the Hazardous Waste Number specified in Table I, which corresponds to the toxic contaminant causing it to be hazardous.

Section 7 Lists of Hazardous Waste

7.01. A solid waste is a hazardous waste if it is listed in Table II or Table III or is determined to be hazardous in accordance with Section 3.

7.02. The Commission will indicate their basis for listing the classes or types of wastes listed in this section by employing one or more of the following Hazard Codes:

Ignitable Waste	(I)
Corrosive Waste	(C)
Reactive Waste	(R)
EP Toxic Waste	(E)
Acute Hazardous Waste	(H)
Toxic Waste	(T)

Table IV identifies the constituent which causes the Commission to list the waste as an EP Toxic Waste (E) or Toxic Waste (T) in Table II and Table III.

7.03. Each hazardous waste listed in this section is assigned an EPA Hazardous Waste Number which precedes the name of the waste. This number must be used in complying with record keeping and reporting requirements of this regulation.

7.04. The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded:

(a) Any commercial chemical product, or manufacturing chemical intermediate having the generic name listed in Subsection 7.04 (e) or 7.04 (f); or

(b) Any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in Subsection 7.04 (e) or 7.04 (f); or

(c) Any container or inner liner removed from a container that has been used to hold any commercial

chemical product or manufacturing chemical intermediate having the generic name listed in Subsection 7.04 (e), or any container or inner liner removed from a container that has been used to hold any off-specification chemical product or manufacturing chemical intermediate which, if it met specifications would have the generic name listed in Subsection 7.04 (e), unless:

(1) The container or inner liner has been triple rinsed using a solvent capable of removing the commercial chemical product or manufacturing chemical intermediate, or

(2) The container or inner liner has been cleaned by another method that has been shown in the scientific literature, or by tests conducted by the generator, to achieve equivalent removal; or

(3) In the case of a container, the inner liner that prevented contact of the commercial chemical product or manufacturing chemical intermediate with the container, has been removed; or

(d) Any residue or contaminated soil, water or other debris resulting from the cleanup of a spill into or on any land or water of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in Subsection 7.04 (e) or 7.04 (f), or any residue or contaminated soil, water

or other debris resulting from the cleanup of a spill, into or on any land or water, of any off-specification chemical product and manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in Subsection 7.04 (e) or 7.04 (f).

(e) The commercial chemical products, manufacturing chemical intermediates or off-specification commercial chemical products or manufacturing chemical intermediates referred to in Subsections 7.04 (a) through 7.04 (d) of this section, are identified as acute hazardous wastes (H). These wastes and their corresponding EPA Hazardous Waste Numbers are listed in Table V; or

(f) The commercial chemical products, manufacturing chemical intermediates, or off-specification commercial chemical products referred to in Subsection 7.04 (a) through 7.04 (d), are identified as toxic wastes (T) unless otherwise designated. These wastes and their corresponding EPA Hazardous Waste Numbers are listed in Table VI.

Section 8. Performance Standards for Thermal Treatment Facilities

8.01. Hazardous waste thermal treatment facilities must achieve a minimum destruction and removal efficiency (DRE) of 99.99 percent for each principal organic hazardous constituent (POHC). DRE is determined for each

POHC from the following equation:

$$DRE = \left(\frac{W_{IN}-W_{OUT}}{W_{IN}}\right) \times 100\%$$

Where

W_{IN} = Mass feed rate of one principal organic hazardous constituent in the waste stream feeding the incinerator, and

W_{OUT} = Mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

One or more POHCs will be specified by the Director for each hazardous waste thermal treatment operating permit from those constituents listed in Table VII for each waste to be burned. This specification will be based on the organic constituents in the waste and on their concentration or mass in the waste feed, considering the results of waste analyses and trial burns or alternative data submitted with the facilities permit application. Organic constituents which are the most difficult to treat by thermal treatment will be those most likely to be designated as POHCs. Constituents are more likely to be designated as POHCs if they are present in large quantities

or concentrations in the waste.

8.02. Hazardous waste thermal treatment facilities must destroy hazardous waste combustion by-products so that the total mass emission rate of these by-products emitted to the atmosphere is no more than 0.01 percent of the total mass feed rate of POHCs fed to the incinerator.

8.03. The Commission may on a case by case basis establish performance standards for thermal treatment processes which are either more or less stringent than those required by Subsections 8.01 and 8.02 based on the following:

(a) More stringent standards are necessary because the emission rates achieved by application of the performance standards under these sections may pose an unacceptable risk to human health or the environment, or

(b) Less stringent standards will achieve emission rates which do not pose an unacceptable risk to human health and the environment.

8.05. The Commission may on a case by case basis stipulate performance standards for metals, hydrogen halides, hydrocarbons, and elemental halogens from thermal treatment facilities based on the finding that such standards are necessary to limit the emissions rates of these constituents to levels which

do not pose an unacceptable risk to human health and the environment.

8.06. No person shall cause, suffer, allow or permit particulate matter to be discharged into the open air from any hazardous waste thermal treatment facility in excess of 180 milligrams per dry standard cubic meter (0.08 grains per dry standard cubic foot) when corrected for 12 percent carbon dioxide, using the procedures presented in the Clean Air Act Regulations, "Standards of Performance for Incinerators", 40 CFR 60.50, Subpart E, except in the case of fuel burning units which are subject to Subsection 8.08.

8.07. An incinerator burning hazardous waste containing more than 0.5 percent chlorine must remove at least 99 percent of the hydrogen chloride from the exhaust gas. Under no circumstances shall hydrogen chloride gas be vented to the atmosphere at a concentration exceeding 210 milligrams per dry standard cubic meter.

8.08. Fuel burning units which burn hazardous waste as well as normal fuels shall comply with this regulation in addition to all other applicable regulations of the Commission.

Section 9. <u>Requirements for Storage, Loading, and Unloading of Hazardous Waste</u>

9.01 Treatment, storage or disposal of hazardous waste

must be conducted in such a manner to prevent the release of hazardous waste constituents to the atmosphere.

9.02. Tanks used to treat or store hazardous waste prior to thermal treatment shall be equipped with an emission control system described as follows:

(a) Storage in open (uncovered) tanks is prohibited.

(b) External floating roofs shall be equipped with double mechanical seals.

(c) Fixed roof tanks shall be equipped with an internal floating roof with appropriate seals; or

(d) Fixed roof tanks shall be equipped with a vapor recovery system approved by the Director; or

(e) Fixed roof tanks shall be equipped with an equally effective alternative control system approved by the Director.

9.03. Emissions of hazardous waste constituents during loading or unloading of tank trucks, railroad cars, and barges containing hazardous waste shall be prevented as follows:

(a) Venting all displaced vapors and gases to a vapor recovery system or an alternative control system approved by the Director; and

(b) Providing a means to prevent liquid drainage from the loading (unloading) device when

it is not in use or to accomplish complete drainage before the loading device is disconnected; and

(c) Equipping all loading and vapor lines with fittings which make vapor tight connections which close automatically when disconnected.

9.04. No person shall cause, suffer, allow or permit the uncontrolled discharge of hazardous waste constituents to the atmosphere during:

(a) Process turn-arounds, or

(b) Cleaning of process equipment, or

(c) Planned process shutdowns, or

(d) Tank truck, railroad tank car, and barge cleaning.

Section 10. Operating Requirements for Thermal Treatment Facilities

10.01. Before adding hazardous waste, the thermal treatment process must be brought to steady state conditions of operation, including steady state operating temperature, using auxiliary fuel or other means, unless the process is a non-continuous (batch) thermal treatment process which requires a complete thermal cycle to treat a discrete quantity of hazardous waste.

10.02. Each thermal treatment process must be operated with a functioning system to automatically cut off such waste feed in cases of emergencies.

10.03. After the effective date of this regulation, an owner or operator of a thermal treatment process shall not treat hazardous wastes other than those listed in his operating permit required by this regulation unless he obtains a modification or construction permit as applicable.

10.04. Hazardous waste thermal treatment facilities must be operated in accordance with operating requirements specified in a valid operating permit. Operating conditions will be specified on a case-by-case basis as those demonstrated by the applicant as sufficient to comply with the performance standards of Section 8 of this regulation.

10.05. Each hazardous waste thermal treatment operating permit may specify the following parameters for a hazardous waste or combination of hazardous wastes:

(a) Hazardous waste feed composition and charge rate; and

(b) Heating value of hazardous waste; and

(c) Halogen, sulfur, and nitrogen content of hazardous waste; and

(d) Ash content of hazardous waste; and

(e) Water content of hazardous waste; and

(f) Incinerator operating temperature; and

(g) Carbon monoxide exhaust gas concentration; and

(h) Combustion air feed rate; and

(i) Any other parameters necessary to ensure that the performance standards of Section 8 are met.

10.06. The owner or operator of a hazardous waste thermal treatment facility may treat hazardous wastes specified in his operating permit and only under conditions specified for such wastes under Subsection 10.05, except;

(a) In approved trial burns under Section 20; or

(b) Under exemptions created by Section 5.

10.07. An owner or operator of a hazardous waste thermal treatment facility shall analyze the hazardous waste feed when operating conditions:

(a) Deviate from steady state; or

(b) Exceed limits specified in the operating permit.

The following properties of the hazardous waste shall be measured when either of the above conditions occur:

(a) Heating value; and

(b) Water content; and

(c) Ash, sulfur, and halogen content.

10.08. A hazardous waste incinerator must cease operation when changes in waste feed, incinerator design, or operating conditions result in emissions exceeding

the limits of Section 8 of this regulation or exceed limits specified in the operating permit.

10.09. Fugitive emissions from the combustion zone of the hazardous waste incinerator must be prevented by:

(a) Keeping the combustion zone totally sealed against fugitive emissions; or

(b) Maintaining a combustion zone pressure lower than atmospheric pressure; or

(c) An alternate means of control demonstrated to provide fugitive emission control equivalent to 10.09 (a) and approved by the Director.

Section 11. Monitoring and Inspection Requirements for Thermal Treatment Facilities

11.01. Throughout normal operation, but not less than once per day, the owner or operator must conduct sufficient waste analysis to verify that such waste feed to the thermal treatment process is within physical and chemical composition limits specified in his operating permit.

11.02. During thermal treatment of hazardous waste, existing instruments which relate to combustion and emission control must be monitored at lease every fifteen (15) minutes. Appropriate corrections to maintain steady state combustion conditions must be made immediately either automatically or by the

operator. Instruments which relate to combustion and emission control would normally include those measuring the hazardous waste feed, auxiliary fuel feed, air flow, thermal treatment temperature, and relevant process flow and level control.

11.03. The complete thermal treatment process and associated equipment, including but not limited to pumps, valves, conveyors, pipes, emergency shut-down controls and equipment, system alarms, and combustion chamber must be inspected at least daily for leaks, spills and fugitive emissions.

11.04. In addition to Subsections 11.01, 11.02 and 11.03, any person operating a hazardous waste incinerator after the effective date of this regulation, must continuously monitor and record combustion temperature, waste feed rate, air feed rate, and carbon monoxide exhaust concentration.

Section 12. Air Emission Monitoring

12.01. The owner or operator of a hazardous waste disposal facility from which hazardous waste constituents or hazardous decomposition by-products are emitted into the air must establish and operate an air monitoring program to measure the effect of the facility on ambient air quality, and the locations of gaseous release from below the surface of the ground or the surface of wastes placed into or on the land.

12.02 An air emission monitoring system to measure the effect of the facility on ambient air quality must be capable of yielding ambient air samples for analysis to provide sufficient ambient air quality data to perform the comparisons and evaluations required in accordance with Subsection 12.06 (a), (b), and (c) and must consist of:

(a) Monitoring air samplers installed upwind or beyond the limit of the waste management area to yield air samples that are:

(1) Representative of background ambient air quality in the atmosphere upwind of the facility, and

(2) Not affected by the facility; and

(b) Monitoring air samplers installed downwind or beyond the limit of the waste management area. Their number and locations must enable the detection and quantification of any hazardous waste constituents or decomposition by-products from the facility which have been transported via atmospheric dispersion; and

(c) Wind direction and speed indicators to determine wind direction and speed. Their number and locations must enable the upwind and downwind use of monitoring air samplers installed in accordance with Subsection 12.02, and the evaluations required

in accordance with Subsection 12.06 (a), (b), (c), and (f).

12.03. If the air monitoring system described in Subsection 12.02 cannot be utilized because of an inability to satisfy locational requirements, then the owner or operator must install an alternate air emission monitoring system capable of providing sufficient quantity of ambient data equivalent to the requirements of that subsection.

12.04. An air emission monitoring system to detect the locations of a gaseous release must enable the immediate detection of the emissions of any hazardous waste constituents or decomposition by-products which have migrated from the limit of the waste management area.

12.05. Air emissiom sampling and analysis.

(a) The owner or operator must obtain and analyze samples from the installed air emission monitoring system. The owner or operator must develop and follow an ambient air sampling and analysis plan. He must keep this plan at the facility. The plan must include procedures and techniques for:

(1) Sample collection,

(2) Sample preservation and shipment,

(3) Analytical procedures, including types of containment to be analyzed,

(4) Collection of wind direction, speed, and stability data, and

(5) Chain of custody control;

(b) The owner or operator with an air emission monitoring system installed to comply with requirements of Subsection 12.02 must:

(1) Determine the concentrations of hazardous waste constituents and decomposition by-products in ambient air samples in accordance with (b) (2) of this subsection, and

(2) For each air upwind and downwind sampler site, obtain at least four upwind and downwind concentrations taken preferably on an equal interval over a three month period and determine the arithmetic mean and variance.

(c) The owner or operator with an air emission monitoring system to comply with the requirements of Subsection 12.04 must monitor two times per year with a portable or other equivalent detection device the concentration of the following or other suitable parameters, used as indicators to detect the location of migrated gaseous emissions:

(1) Total hydrocarbons, and

(2) Total halogenated compounds.

(d) The owner or operator with an air emission monitoring system implementing the requirements of

Subsection 2.02 and 2.03 must determine the wind direction and speed, and other meterological conditions any time air to air emissions are sampled, as necessary for the evaluations required in accordance with Subsection 12.06 (a), (b), (c), and (f).

12.06. Air emission evaluation and response.

(a) The owner or operator with an ambient air monitoring system installed to comply with the requirements of Subsection 12.02 must predict the anticipated concentration of hazardous waste constituents and decomposition by-products in the ambient air at the downwind monitoring sampler sites taking into account the upwind concentration, initially and quarterly thereafter.

(b) Quarterly the owner or operator must compare the quality from the downwind air monitoring sites required in accordance with Subsection 12.02 with the predicted quality in accordance with Subsection 12.06 (a), and include an analysis of the quarterly comparison with the annual report.

(c) Annually the owner or operator must repredict, based on data generated by the air monitoring program required in accordance with Subsection 12.02, the anticipated effect of the facility on ambient air quality. The anticipated effect must include at a minimum the worst condition, quarterly, and annual

effects.

(d) At the end of each calendar year, the owner or operator must compare the anticipated effect of the facility on ambient air quality as repredicted in accordance with Subsection 12.06 (c) with the provisions of the facility permit and report his findings to the Director.

(e) If the comparisons made under Subsection 12.06 (d) show non-compliance with permit provisions on ambient air quality, the owner or operator must:

(1) Determine whether the facility disposal practice must be modified to enable compliance with the requirements of the permit, and

(2) Include his findings and his proposed modifications to the facility disposal practice in the annual report.

(f) The owner or operator with an air emission monitoring system to comply with the requirements of Subsection 12.04 must have an approved plan for an air and area contamination assessment program. The plan must describe an air emission monitoring program capable of identifying the location of gaseous releases migrated from the limit of the waste management area, and capable

of assessing the effect on ambient air quality in the affected area.

(g) If monitoring performed to comply with the requirements of Subsection 12.05 (c) shows a detection of gaseous release, the owner or operator must implement the plan for an air and area contamination assessment program which meets the requirements of Subsection 12.06 (f).

(h) After implementation of the plan in accordance with Subsection 12.06 (g), the owner or operator must compare the extent of migration and the assessment with the provisions of the facility permit and provide an analysis of this comparison in writing to the Director.

12.07. Air emission record keeping and reporting.

(a) The owner or operator must keep records of all analyses and evaluations of ambient air quality, wind direction and speed, and air emissions required in accordance with this subsection and maintain these records for a period of ten (10) years from the date the samples are collected.

(b) At the Director's request, the owner or operator must report the following information to the Director:

(1) The results of evaluations made in accordance with the requirements specified in Subsection

12.06 (e) and (h), and

(2) The concentrations or values determined in accordance with Subsection 12.05 (b), (c), and (d) along with the evaluations required under Subsection 12.06. During the active life of the facility, this information must be submitted as part of the annual report required under Subsection 12.06 (d).

Section 13. Record Keeping for Thermal Treatment Facilities

13.01. The owner or operator of a hazardous waste thermal treatment facility shall maintain a log of operation containing the following information.

(a) Waste analysis data specified under Subsections 10.07 and 11.01; and

(b) Monitoring data required under Subsection 11.02 and, for incinerators 11.04, and

(c) Inspection data under Subsection 11.03 and

(d) The quantity of waste thermally treated per day.

13.02. Samples and measures taken for the purpose of monitoring shall be representative of the monitored activity.

13.03. The permittee shall retain records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings

for continuous monitoring instrumentation) and copies of all data used to complete applications for permits and data used for registration for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

13.04. Records of monitoring information shall include:

(a) The date, exact place, and time of sampling or measurements; and

(b) The individual(s) who performed the sampling or measurements; and

(c) The date(s) analyses were performed; and

(d) The individual(s) who performed the analyses; and

(e) The analytical techniques or methods used; and

(f) The results of such analyses.

Section 14. Reports and Testing

14.01. At such reasonable times as the Director may designate, the operator of any thermal treatment facility shall be required to conduct or have conducted stack tests to determine the emissions in exhaust gases when the Director has reason to believe that the stack emission limitations are being violated

or for compliance testing. Such tests shall be conducted by analytical techniques specified in EPA document SW-846 or their equivalent. Test reports shall be filed on forms and in a manner acceptable to the Director. The Director, or his duly authorized representative, may at his option witness or conduct such stack tests. Should the Director exercise his option to conduct such tests, the operator will provide all the necessary sampling connections and sampling ports to be located in such a manner as the Director may require, power for test equipment, and the required safety equipment such as scaffolding, railings, and ladders to comply with generally accepted good safety practices.

14.02. The Director, or his authorized representative, may conduct such tests as he may deem necessary to evaluate air pollution emissions other than those noted above.

Section 15. Noncompliance Reporting

15.01. The owner or operator shall report to the Director all instances of noncompliance as follows:

(a) Failure to Complete Construction Element. When the owner has failed to complete, by the date specified in his operating permit; an element of a compliance schedule involving either planning or construction (for example, award of a contract,

preliminary plans), or a construction step (for example, begin construction, attain operation level); and the owner has not returned to compliance by accomplishing the required element of the schedule within thirty (30) days from the date of a compliance schedule report is due under the permit; or

(b) Whenever the owner has violated an operating permit requirement and has not returned to compliance within one (1) working day; or

(c) Significant permit noncompliance or other event(s) such as explosions, and process upsets which result in the discharge of hazardous pollutants to the atmosphere which may endanger health or the environment.

15.02. The owner or operator shall orally report all instances of noncompliance described in Subsection 15.01 (c) within twenty-four (24) hours of the occurrence. The following information shall be supplied:

(a) Name, address, and telephone number of the owner or operator; and

(b) Name, address and telephone number of the facility; and

(c) Date, time and type of incident; and

(d) Name, and quantity of material(s) involved; and

(e) The extent of injuries, if any; and

(f) An assessment of actual or potential hazards to the environment and human health; and

(g) Steps taken or planned to correct the noncompliance; and

(h) The anticipated time the incident is expected to continue; and

(i) Estimated quantity and disposition of recovered material that resulted from the incident.

15.03. Within five (5) days of the occurrence the owner or operator shall submit in writing all information required under Subsection 15.02 including any additional procedures to prevent recurrence of the noncompliance.

Section 16. Modification, Construction, or Renewal Permit Applications

16.01. No person shall construct a new hazardous waste treatment or disposal facility which discharges, or may discharge, hazardous waste to the atmosphere without obtaining a construction permit from the Director.

16.02. No person shall modify or reconstruct an existing hazardous waste treatment or disposal facility without obtaining a modification permit from the Director. The following actions constitute a "modification":

(a) There are material and substantial alterations or additions to the permitted facility or

activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit; or

(b) If the Director has received information pertaining to circumstances or conditions existing at the time the permit was issued that were not included in the administrative record and would have justified the application of different permit conditions; or

(c) The standards of regulations on which the permit were based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued. Permits may be modified during their terms for this cause only as follows:

(1) For promulgation of amended standards or regulations, when:

(i) The permit conditions request to be modified was based on a promulgated hazardous waste regulation, and

(ii) The Commission has revised, withdrawn or modified that portion of the regulation on which the permit conditions was based, or

(2) For judicial decision, a court of competent jurisdiction has remanded and stayed State regulations, if the remand and stay concern that

portion of the regulations on which the permit condition was based and a request is filed by the permittee within ninety (90) days of judicial remand; or

(d) Change in ownership of a treatment facility or

(e) Treatment of hazardous wastes other than those specified in the facilities operating permit.

16.03. For a new treatment or disposal facility, the permittee may not commence treatment or disposal of hazardous waste; and for a facility being modified the permittee may not treat or dispose of hazardous waste in the modified portion of the facility until:

(a) The permittee has submitted to the Director by certified mail or hand delivery a letter signed by the permittee and an authorized representative stating that the facility has been constructed or modified in compliance with the permit; and

(b) (1) The Director has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the permit, or

(2) Within fifteen (15) days of the date of submission of the letter in Subsection 16.03(a) if the permittee has not received notice from the

Director of his intent to inspect, prior inspection is waived and the permittee may commence treatment or disposal of hazardous waste.

16.04. All applications for new treatment or disposal facilities must be submitted one hundred-eight (180) days before physical construction is expected to commence.

16.05. Any treatment or disposal facility with an effective permit shall submit a new application at least one hundred-eighty (180) days before the expiration date of the effective permit.

16.06. For purposes of this regulation, granting of a construction permit shall establish the basis for issuance of an operating permit.

Section 17. Contents of Applications

17.01. The following information shall be provided during each application for a permit to construct, modify, or renew a treatment or disposal facility:

(a) Latitude and longitude of the facility; and

(b) The name, address, location, and telephone number of the owner of the facility; and

(c) An indication if whether the facility is new or existing and whether it is a first or revised application; and

(d) For existing facilities, a scale drawing of the facility showing the location of all past,

present, and future treatment, storage, and disposal areas; and

(e) For existing facilities, current photographs of the facility clearly delineating all existing structures; existing treatment and disposal areas; and sites of future treatment and disposal areas; and

(f) A description of the processes to be used for treating and disposing of hazardous waste, and the design capacity of these items; and

(g) A specification of the hazardous wastes listed in this regulation which are treated, or disposed of at the facility, an estimate of the quantities of such waste to be treated or disposed annually, and a general description of the processes to be used for such wastes; and

(h) A general description of the facility; and

(i) Chemical and physical analyses of the hazardous wastes to be treated at the facility. At a minimum, these analyses shall contain all the information which must be known to treat a waste in accordance with this regulation; and

(j) A description of procedures, structures, or equipment used at the facility to:

(1) Prevent uncontrolled reaction of

incompatible wastes (for example, procedures to avoid fires, explosions, or the formation of toxic gases), and

(2) Prevent hazards in unloading operations (for example, ramps, special forklifts), and

(3) Mitigate effects of equipment failure and power outages.

17.02. For facilities that incinerate hazardous waste, the applicant must fulfill the following requirements:

(a) When seeking exemption under Section 5 (ignitable waste only) the applicant must show that the waste is either

(1) Listed as a hazardous waste under this regulation, only because it is ignitable (Hazard Code I), or

(2) That the waste has been tested against the characteristic of hazardous waste, and that it meets only the ignitability characteristic, and includes none of the hazardous constituents listed in Table VII; and

(b) Submit results of a trial burn conducted in accordance with Section 20, Trial Burn Permits, including all the determinations required by that section; or

(c) In lieu of a trial burn, the applicant may

submit the following information:

(1) An analysis of each hazardous waste or mixture of hazardous wastes including:

(i) Heating value of the waste in the form and composition in which it will be burned,

(ii) Viscosity (if applicable) or description of physical form of the waste,

(iii) An identification of any hazardous organic constituents listed in Table VII which are present in the waste to be burned, except that the applicant need not analyze for constituents in Table VII which would not be expected to be found in the waste. The constituents excluded must be identified and the basis of their exclusion stated. The waste analysis must rely on analytical techniques specified in EPA document SW-846 or their equivalent,

(iv) An appropriate quantification of the hazardous constituents identified in the waste, within the precision produced by analytical methods specified in EPA document SW-846, "Test Methods for Evaluating Solid Waste",

(v) A quantification of those hazardous constituents in the waste which may be designated POHCs based on data submitted from other trial or operational burns which demonstrate compliance with

the performance standards of this regulation; and

(2) A detailed engineering description of the incinerator, including:

(i) Manufacturers name and model of incinerator,

(ii) Type of incinerator,

(iii) Linear dimension of incinerator unit including cross sectional area of combustion chamber,

(iv) Description of auxiliary fuel (type/feed),

(v) Capacity of prime mover,

(vi) Description of automatic waste feed cutoff system(s),

(vii) Stack gas monitoring and pollution control monitoring system,

(viii) Nozzle and burner design,

(ix) Construction materials,

(x) Location and description of temperature, pressure, and flow indicating devices and control devices, and

(3) A description and analysis of the hazardous waste to be burned compared with the hazardous waste for which data from operational or trial burns are provided to support the contention that a trial burn is

not needed. The data should include those items listed in Subsection 17.02 (c) (1). This analysis should specify the POHCs which the applicant has identified in the waste for which a permit is sought, and any differences from the POHCs in the waste for which burn data are provided, and

(4) The design and operating conditions of the incinerator unit to be used, compared with that for which comparative burn data are available, and

(5) A description of the results submitted from any previously conducted trial burn(s) including:

(i) Sampling and analysis techniques used to calculate performance standards,

(ii) Methods and results of monitoring temperatures, waste feed rates, air feed rates, and carbon monoxide,

(iii) Identification of any hazardous combustion by-products delected, and

(6) The expected incinerator operation information to demonstrate compliance with the performance standards and operating requirements of this regulation including:

(i) Expected carbon monoxide (CO) level in the stack exhaust gas,

(ii) Waste feed rate,

(iii) Combustion zone temperature,

(iv) Air feed rate,

(v) Expected stack gas volume, flow, and temperature,

(vi) Computed residence time for waste in the combustion zone,

(vii) Expected hydrochloric acid removal efficiency,

(viii) Expected fugitive emissions and their control procedures.

(ix) Proposed waste feed cutoff limits based on the identified significant operating parameters, and

(7) Proposed supplemental information as the Director finds necessary to achieve the purposes of this subsection, and

(8) Hazardous waste analysis data, including that submitted in Subsection 17.02 (c) (1), sufficient to allow the Director to specify as permit POHCs those constituents for which destruction and removal efficiencies will be required;

17.03. For thermal treatment devices other than incinerators, the applicant must demonstrate compliance with the performance standards and operating requirements of this regulation.

Section 18. Signatories to Permit Application, Registrations, and Reports

18.01. All permit applications and registrations shall be signed as follows:

(a) For a corporation: By a principal executive officer of at least the level of vice-president; or

(b) For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

(c) For a municipality, State, Federal, or other public agency: By either a principal executive officer or ranking elected official; or

(d) By a duly authorized representative as defined in Subsection 18.02.

18.02. All reports required by permits and other information requested by the Director shall be signed by a person described in Subsection 18.01 above or by a duly authorized representative only if:

(a) The authorization is made in writing by a person described in Subsection 18.01; and

(b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, superintendent, or position of equivalent responsi-

bility; and

(c) The written authorization is submitted to the Director.

18.03. If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements shall be submitted to the Director prior to or together with any reports, information or applications to be signed by an authorized representative.

18.04. Any person signing a document under Section 18 shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information. I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

For the purpose of this subsection, the requirements that the signer have "personally examined"

and be "familiar" with the information submitted means that the signer must have read the document and must sufficiently comprehend the information contained in the document and its regulatory consequences to enable him or her to make a reasonable inquiry as to the truth, accuracy, and completeness of the information. The requirement that the signer make "inquiry of those individuals immediately responsible for obtaining the information" means that the signer shall make a good faith effort to ascertain whether or not the information submitted complies with the requirements of this subsection.

Section 19. Conditions Applicable to All Permits

The following conditions apply to all treatment and disposal permits. All conditions applicable to all permits shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to these regulations shall be given in the permit.

19.01. Duty to comply. The permittee shall comply with all conditions of his permit. Any permit noncompliance constitutes a violation of these regulations and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

19.02. Duty to reapply, If the permittee wishes to continue a regulated activity after the expiration date of his permit, he shall apply for, and obtain, a new permit.

19.03. Duty to halt or reduce activity. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of his permit.

19.04. Duty to mitigate. The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment to human health resulting from noncompliance with his permit.

19.05. Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of his permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including quality assurance procedures.

19.06. Permit actions. The permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit

modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

19.07. Property rights. The permit does not convey any property rights of any sort, or any exclusive privilege. Possession of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulation.

19.08. Duty to provide information. The permittee shall furnish to the Director within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating a permit or to determine compliance with a permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by the permit.

19.09. Inspection and entry. The permittee shall allow the Director or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

(a) Enter any building, property, premises, place, or permitted facility where hazardous wastes are, or have been generated, treated, stored, transported or

disposed of for the purpose of making an investigation with reasonable promptness to ascertain the compliance by any person with the provisions of this regulation or the rules and regulations promulgated by the Commission; or

(b) Enter any establishment or other place maintained by any person where hazardous wastes are or have been stored, treated, or disposed of to inspect and take samples of wastes, air, or any containers or labelings for such wastes. In taking such samples, the Director or his representative may utilize such sampling methods as he determines to be necessary. If the Director or representative, obtains any such samples, prior to leaving the premises, he shall give to the owner, operator, or agent in charge, a receipt describing the sample obtained and, if requested, a portion of each such sample equal in volume or weight to the portion retained. The Director shall promptly provide a copy of any analysis made to the owner, operator, or agent in charge; or

(c) Examine all records relating to the storage, treatment, or disposal of hazardous waste in the possession of any person who generates, stores, treats, transports, disposes of, or otherwise handles or has handled such waste, the Director or an authorized

representative, employee or agent shall be furnished with copies of all such records or given the records for the purpose of making copies. If the Director, upon inspection, investigation or through other means, observes or learns of a violation or probable violation of this article, The Commission is authorized to issue subpoenas and subpoenas duces tecum and to order the attendance and testimony of witnesses to compel the production of any books, papers, documents, manifests and other physical evidence pertinent to such investigation or inspection.

Section 20. Trial Burns

20.01. The Director may issue a trial burn permit to a facility to allow short term operation of hazardous waste incinerator.

20.02. The trial burn must be conducted in accordance with a trial burn plan prepared by the applicant and approved by the Director. The trial burn plan will then become a condition of the permit. The trial burn plan will include the following information:

(a) An analysis of each hazardous waste or mixture of wastes to be burned which includes:

(1) Heating value of the hazardous waste in the form and composition in which it will be burned,

(2) Viscosity (if applicable), or description of physical form of the hazardous waste,

(3) An identification of any hazardous organic constituents listed in Table VII which are present in the hazardous waste to be burned except that the applicant need not analyze for constituents in Table VII which would reasonably not be expected to be found in the waste. The constituents excluded from analysis must be identified and the basis for their exclusion stated. The waste analysis must rely on analytical techniques specified in EPA document SW-846 or other methods approved by the United States Environmental Protection Agency,

(4) An approximate quantification of the hazardous constituents identified in the waste within the precision produced by analytical methods in EPA document SW-846, and

(5) A quantification of those hazardous constituents in the waste which may be designated POHC's based on data submitted from trial or operational burns which demonstrate compliance with the performance standards of this regulation; and

(b) A detailed engineering description of the incinerator for which the trial burn permit is sought including:

(1) Manufacturer's name and model number of

incinerator,

(2) Type of incinerator,

(3) Linear dimensions of the incinerator including the cross sectional area of the combustion chamber,

(4) Description of the auxiliary fuel system (type/feed),

(5) Capacity of prime mover,

(6) Description of automatic waste feed cut-off system (s),

(7) Stack gas monitoring and pollution control equipment,

(8) Nozzle and burner design,

(9) Construction materials, and

(10) Location and description of temperature, pressure, and flow indicating and control devices; and

(c) A detailed description of sampling and monitoring procedures including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis; and

(d) A detailed test schedule for each waste for which the trial burn is planned including date(s), duration, quantity of waste to be burned, and other

factors relevant to the Director's decision under Subsection 20.05; and

(e) A detailed test protocol including for each waste identified, the ranges of temperature, waste feed rate, air feed rate, use of auxiliary fuel, and any other relevant parameters that will be varied to affect the destruction and removal efficiency of the incinerator; and

(f) A description of, and planned operating conditions for, any emission control equipment which will be used; and

(g) Procedures for rapidly stopping waste feed, shutting down the incinerator, and controlling emissions in the event of an equipment malfunction; and

(h) Such other information as the Director reasonably finds necessary to determine whether to approve the trial burn plan in light of this regulation and the criteria in Subsection 20.05.

20.03. The Director, in reviewing the trial burn plan, shall evaluate the sufficiency of the information provided and may require the applicant to supplement this information, if necessary, to achieve the purposes of this section.

20.04. Based on the waste analysis data in the trial burn plan, the Director will specify as trial POHC's those

constituents for which destruction and removal efficiencies must be calculated during the trial burn. These trial POHC's will be specified by the Director based on his estimate of the difficulty of incineration of the constituents identified in the waste analysis, the concentration or mass in the waste feed, and, for wastes listed in Section 7, the hazardous waste constituent or constituents identified in Table VII.

20.05. The Director shall approve a trial burn plan if he finds that:

(a) The trial burn is likely to determine whether the incinerator performance standards of this regulation can be met; and

(b) The trial burn itself will not present an imminent hazard to human health or the environment; and

(c) The trial burn itself will help the Director to determine operating requirements; and

(d) The information sought under Subsection 20.05 (a) and (c) cannot reasonbly be developed through other means.

20.06. Within forty-five (45) days after each trial burn, the applicant must submit to the Director the following information:

(a) A quantitative analysis of the trial POHCs in the hazardous waste feed to the incinerator; and

(b) A quantitative analysis of the exhaust gas for the concentration and mass emissions of POHCs, CO_2, O_2, and hazardous combustion by-products; and

(c) A quantitative analysis of the scrubber water (if any), ash residues, and other residues, for the trial POHCs; and

(d) A total mass balance of the trial POHCs in the hazardous waste; and

(e) A computation of destruction and removal efficiency (DRE), in accordance with the DRE formula specified in this regulation; and

(f) If the hazardous waste contains more than 0.5 percent chlorine, a computation of chlorine removal efficiency; and

(g) A computation of particulate emissions in accordance with this regulation; and

(h) An identification of sources of fugitive emissions and their means of control; and

(i) A measurement of average, maximum, and minimum temperatures, and air feed rates; and

(j) A continous measurement of CO in the exhaust gas; and

(k) Such other information as the Director may specify as necessary to ensure that the trial burn will determine compliance with the performance standards of this regulation and to establish the operating requirements necessary to meet the performance standards.

20.07. The applicant shall submit to the Director a certification that the trial burn has been carried out in accordance with the approved trial burn plan, and the results of all determinations required by Subsection 20.06. This submission shall be made within forty-five (45) days upon completion of the test.

20.08. All data collected during any trial burn must be submitted within forty-five (45) days to the Director following completion of the trial burn.

20.09. All submissions required by this Section shall be certified on the behalf of the applicant by a person authorized to sign a permit application or report.

Section 21. Permit Application Review Procedures

21.01. The Director shall not begin the processing of a permit application until the applicant has fully complied with Section 17.

21.02. Permit applications must comply with the signature

and certification requirements of Section 18.

21.03. The Director should reveiw for completeness each application for a construction permit within thirty (30) days. Each application for an operating permit should be reviewed within sixty (60) days. Upon completing the review, the Director shall notify the applicant in writing whether the application is complete. If the application is incomplete, the Director shall list the information necessary to make the application complete. When the application is for an existing treatment or disposal processes, the Director shall specify in the notice of deficiency a date for submitting the necessary information. The Director shall notify the applicant that the application is complete upon receiving this information. The Director may request additional information from an applicant but only when necessary to clarify, modify, or supplement previously submitted material. Requests for such additional information will not render an application incomplete.

21.04. If an applicant fails or refuses to correct deficiencies in the application, the permit may be denied and appropriate enforcement actions may be taken under the applicable statutory provisions.

21.05. If the Director decides a site visit is necessary

for any reason in conjunction with the processing of an application, he shall notify the applicant and a date shall be scheduled.

21.06. The effective date of an application is the date on which the Director notifies the applicant that the application is complete as provided in Subsection 21.03.

21.07. Once an application is complete and reviewed, the Director shall tentatively decide whether to prepare a draft permit or to deny the application.

(a) If the Director tentatively decides to deny the permit application, he shall issue a notice of intent to deny. A notice of intent to deny the permit application is a type of draft permit which follows the same procedures as any draft permit prepared under this Section. If the Director's final decision is that the tentative decision to deny the permit was incorrect, he shall withdraw the notice of intent to deny and proceed to prepare a draft permit.

(b) If the Director tentatively decides to grant a permit, he shall prepare a draft permit and provide public notice of his decision.

21.08. Public notice of activities under Subsection 21.07 shall be given by the following methods and

shall allow forty-five (45) days for public comment:

(a) By mailing a copy of a notice to the following persons (any person otherwise entitled to receive notice under this paragraph may wave his or her rights to receive notice for any classes and categories of permits):

(1) The applicant, who shall place a Class I legal advertisement in the paper of general circulation in the county where the source is located. Upon publication, the applicant shall send the Director a copy of the certificate of publication and

(2) The West Virginia Department of Natural Resources,

(3) Affected state and local air pollution control agencies, the chief executives of the city and county where the major stationary source or major modification would be located, any comprehensive regional land use planning agency and any State, Federal Land Manager, and

(4) Persons on a mailing list developed by:

(i) Including those who request in writing to be on the list,

(ii) Soliciting persons for "area lists"

from participants in past permit proceedings in that area,

(iii) Notifying the public of the opportunity to be put on the mailing list through periodic publication in the public press and in such publications as Regional and State funded newsletters, environmental bulletins, or State law journals. (The Director may update the mailing list from time to time by requesting written indication of continued interest from those listed. The Director may delete from the list the name of any person who fails to respond to such a request.)

21.09. All public notices issued under this section shall contain the following information:

(a) Name and address of the office processing the permit action for which notice is being given; and

(b) Name and address of the permittee or permit applicant and, if different, of the facility or activity regulated by the permit; and

(c) Name, address and telephone number of a person from whom interested persons may obtain further information, including copies of the draft permit, fact sheet, and the application; and

(d) A brief description of the comment precedures

required by Subsections 21.11 and 21.12 and the time and place of any hearing that will be held, including a statement of procedures to request a hearing (unless a hearing has already been scheduled) and other procedures by which the public may participate in the final permit decision.

21.10. If the Director decides to prepare a draft permit, he shall also prepare a fact sheet. The fact sheet shall contain the principle facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit.

21.11. During the public comment period, any interested person may submit written comments on the draft permit and request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments shall be considered in making the final decision and shall be answered as provided in Subsection 21.13.

21.12. The Director shall hold a public hearing whenever he finds, on the basis of requests, a significant degree of public interest in the draft permit(s). The Director also may hold a public hearing at his discretion, whenever, for instance, such a hearing

might clarify one or more issues involved in the permit decision. Public notice of the hearing shall be given as specified in Subsection 21.08 and shall allow thirty (30) days for public comment.

21.13. At the time any final permit decision is issued, the Director shall issue a response to comments. This response shall:

(a) Specify which provisions, if any, of the draft permit have been changed in the final permit decision, and the reasons for the change; and

(b) Briefly describe and respond to all significant comments on the draft permit raised during the public comment period, or during any hearing.

21.14. The responses to comments shall be available to the public.

Section 22. Transfer and Duration of Permits

22.01. Operating, construction, and modification permits are not transferable.

22.02. Treatment or disposal operating permits shall be effective for ten (10) years from the date of issue. The Director may issue an operating permit for a duration that is less than the full term.

22.03. Trial burn and emergency permits shall be effective for a given term to be specified by the Director.

Section 23. Termination, Revocation, and Modification of Permits

23.01. The Director may terminate, revoke, or modify an operating permit or deny renewal of an operating permit for the following reasons:

(a) Noncompliance by the permittee with any condition of a permit or a provision of this regulation; or

(b) The permittee's failure in the application or during the permits issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time; or

(c) A determination that nonwithstanding compliance with the permit, the permitted activity poses a threat to human health or the environment which can only be regulated to acceptable levels by permit termination.

23.02. Once the Director has issued an Order terminating an operating, construction, or modification permit, the owner of the affected facility must prepare and submit a new application for any such permit.

23.03. The termination, revocation, or modification of a permit to operate, construct, or modify, a facility shall be embodied in an Order issued by the Director and shall take effect upon issuance. Any

such Order may be appealed to the Commission in accordance with the provisions of Chapter 16, Article 20, Section 6 of the Code.

Section 24. Minor Modification of Permits

Upon the consent of the permittee, the Director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this Section without following the required procedures for major modification. Any permit modification not processed as a minor modification under this Section shall be made for causes and with draft permit and public notice as required. Minor modifications may only:

(a) Correct typographical error; and

(b) Require more frequent monitoring or reporting by the permittee; and

(c) Change an interim compliance date in a schedule of compliance, provided the new date is not more than one hundred twenty (120) days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement.

Section 25. Emergency Permits

25.01. In the event the Commission finds an imminent and substantial endangerment to human health or the

environment, the Commission may issue a temporary emergency permit to a facility to allow thermal treatment of hazardous waste for a non-permitted facility or hazardous waste not covered by a facility with an effective operating permit. The permittee need not comply with the conditions of an operating permit to the extent and for the duration such non-compliance is authorized in an emergency permit.

25.02. The emergency permit:

(a) May be oral or written, if oral, it shall be followed within five (5) days by a written emergency permit; and

(b) Shall not exceed ninety (90) days in duration; and

(c) Shall clearly specify the hazardous wastes to be received, and the manner and location of their treatment, storage, or disposal; and

(d) May be terminated by the Director at any time without process if it is determined that termination is appropriate to protect human health or the environment; and

(e) Shall be accompanied by a public notice which shall include the following:

(1) Name and address of the office granting the emergency authorization,

(2) Name and location of the permitted Hazardous Waste Management facility,

(3) A brief description of the wastes involved,

(4) A brief description of the emergency permit, and

(5) Duration of the emergency permit; and

(f) Shall incorporate, to the extent possible and not inconsistent with the emergency situation, all applicable requirements of this regulation.

TABLE I

MAXIMUM CONCENTRATION OF CONTAMINANTS
FOR CHARACTERISTIC OF EP TOXICITY

Hazardous Waste Number	Contaminant	Maximum Concentration (milligrams per liter)
D004	Arsenic	5.0
D005	Barium	100.0
D006	Cadmium	1.0
D007	Chromium (VI)	5.0
D008	Lead	5.0
D009	Mercury	0.2
D010	Selenium	1.0
D011	Silver	5.0
D012	Endrin (1,2,3,4,10,10-hexachloro-1,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4-endo, endo-5,8-dimethano napththalene)	0.2
D013	Lindane (1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer)	0.4
D014	Methoxychlor (1,1,1-Trichloro-2,2-bis (p-methoxyphenyl) ethane)	10.0
D015	Toxaphene ($C_{10}H_{10}Cl_8$, Technical chlorinated champhene, 67-69 percent chlorine)	0.5
D016	2,4-D, (2,4-Dichlorophenoxyacetic acid)	10.0
D017	2,4,5-TP Silvex (2,4,5-Trichlorophenoxypropionic acid)	1.0

TABLE II

Industry and EPA Hazardous Waste No.	Hazardous Waste	Hazard code
Generic		
F001	The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; and sludges from the recovery of these solvents in degreasing operations.	(T)
F002	The following spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, orthodichlorobenzene, and trichlorofluoromethane; and the still bottoms from the recovery of these solvents.	(T)
F003	The following spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; and the still bottoms from the recovery of these solvents.	(I)
F004	The following spent non-halogenated solvents: cresols and cresylic acid, and nitrobenzene; and the still bottoms from the recovery of these solvents.	(T)

F005 The following spent non-halogenated solvents: (I,T) toluene, methyl ethyl ketone, carbon disulfide, isobutanol, and pyridine; and the still bottoms from the recovery of these solvents.

F006 Wastewater treatment sludges from electroplating (T) operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.

F019 Wastewater treatment sludges from the chemical (T) conversion coating of aluminum.....

F007 Spent cyanide plating bath solutions from electro- (R,T) plating operations (except for precious metals electroplating spent cyanide plating bath solutions).

F008 Plating bath sludges from the bottom of plating baths (R,T) from electroplating operations where cyanides are used in the process (except for precious metals electroplating plating bath sludges).

F009 Spent stripping and cleaning bath solutions from (R,T) electroplating operations where cyanides are used in the process (except for precious metals electro-

plating spent stripping and cleaning bath solutions).

F010 Quenching bath sludge from oil baths from metal heat treating operations where cyanides are used in the process (except for precious metals heat-treating quenching bath sludges). (R,T)

F011 Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations (except for precious metals heat treating spent cyanide solutions from salt bath pot cleaning). (R,T)

F012 Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process (except for precious metals heat treating quenching wastewater treatment sludges). (T)

TABLE III

Industry and EPA Hazardous Waste No.	Hazardous Waste	Hazard code
Wood Preservation:		
K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol.....	(T)
Inorganic Pigments:		
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments.....	(T)
K003	Wastewater treatment sludge from the production of molybdate orange pigments.....	(T)
K004	Wastewater treatment sludge from the production of zinc yellow pigments.....	(T)
K005	Wastewater treatment sludge from the production of chrome green pigments.....	(T)
K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).....	(T)
K007	Wastewater treatment sludge from the production of iron blue pigments.....	(T)
K008	Oven residue from the production of chrome oxide green pigments.....	(T)
Organic Chemicals:		
K009	Distillation bottoms from the production of acet-	(T)

	aldehyde from ethylene.....	
K010	Distillation side cuts from the production of acetaldehyde from ethylene.....	(T)
K011	Bottom stream from the wastewater stripper in the production of acrylonitrile.....	(R,T)
K013	Bottom stream from the acetonitrile column in the production of acrylonitrile.....	
K014	Bottoms from the acetonitrile purification column in the production of acrylonitrile.....	(T)
K015	Still bottoms from the distillation of benzyl chloride.....	(T)
K016	Heavy ends or distillation residues from the production of carbon tetrachloride.....	(T)
K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin.....	(T)
K018	Heavy ends from the fractionation column in ethyl chloride production.....	(T)
K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production....	(T)
K020	Heavy ends from the distillation of vinyl chloride monomer production.....	(T)
K021	Aqueous spent antimony catalyst waste from fluoromethanes production.....	(T)
K022	Distillation bottom tars from the production of phenol/acetone from cumene.....	(T)
K023	Distillation light ends from the production of phthalic anhydride from napthhthalene.....	(T)

K024	Distillation bottoms from the production of phthalic anydride from naphthalene.....	(T)
K093	Distillation light ends from the production of phthalic anhydride from ortho-xylene.....	(T)
K094	Distillation bottoms from the production of phthalic anhydride from ortho-xylene.....	(T)
K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene.....	(T)
K026	Stripping still tails from the production of methyl ethyl pyridines.....	(T)
K027	Centrifuge and distillation residues from toluene diisocyanate production.....	(R,T)
K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane.....	(T)
K029	Waste from the product steam stripper in the production of 1,1;1-trichloroethane.....	(T)
K095	Distillation bottoms from the production of 1,1,1-trichloroethane.....	(T)
K096	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane.....	(T)
K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene.....	(T)
K083	Distillation bottoms from aniline production.....	(T)
K103	Process residues from aniline extraction from the production of aniline.....	(T)

K104	Combined wastewater streams generated from nitrobenzene/aniline production.....	(T)
K085	Distillation or fractionation column bottoms from the production of chlorobenzenes.....	(T)
K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes	(T)

Inorganic Chemicals:

K071	Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.....	(T)
K073	Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.....	(T)
K106	Wastewater treatment sludge from the mercury cell process in chlorine production.....	(T)

Pesticides:

K031	By-product salts generated in the production of MSMA and cacodylic acid.....	(T)
K032	Wastewater treatment sludge from the production of chlordane.....	(T)
K033	Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane..	(T)
K034	Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane..	(T)
K097	Vacuum stripper discharge from the chlordane	(T)

chlorinator in the production of chlordane.....

K035 Wastewater treatment sludges generated in the production of creosote..... (T)

K036 Still bottoms from toluene reclamation distillation in the production of disulfoton..... (T)

K037 Wastewater treatment sludges from the production of disulfoton..... (T)

K038 Wastewater from the washing and stripping of phorate production..... (T)

K039 Filter cake from the filtration of diethyl-phosphorodithioic acid in the production of phorate (T)

K040 Wastewater treatment sludge from the production of phorate..... (T)

K041 Wastewater treatment sludge from the production of toxaphene..... (T)

K098 Untreated process wastewater from the production of toxaphene..... (T)

K042 Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T..... (T)

K043 2,6-Dichlorophenol waste from the production of 2,4-D..... (T)

K099 Untreated wastewater from the production of 2,4-D (T)

Explosives:

K044 Wastewater treatment sludges from the manufacturing (R)

and processing of explosives.....

K045 Spent carbon from the treatment of wastewater containing explosives..... (R)

K046 Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds..... (T)

K047 Pink/red water from TNT operations..... (R)

Petroleum Refining:

K048 Dissolved air flotation (DAF) float from the petroleum refining industry..... (T)

K049 Slop oil emulsion solids from the petroleum refining industry..... (T)

K050 Heat exchanger bundle cleaning sludge from the petroleum refining industry..... (T)

K051 API separator sludge from the petroleum refining industry..... (T)

K052 Tank bottoms (leaded) from the petroleum refining industry..... (T)

Iron and Steel:

K061 Emission control dust/sludge from the primary production of steel in electric furnaces..... (T)

K062 Spent pickle liquor from steel finishing operations (C,T)

Secondary Lead:

K069 Emission control dust/sludge from secondary lead smelting..... (T)

K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.....	(T)

Veterinary Pharmaceuticals:

K084	Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.....	(T)
K101	Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-aresenic compounds.....	(T)
K102	Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.....	(T)

Ink Formulation:

K086	Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.....	(T)

Coking:

K060	Ammonia still lime sludge from coking operations...	(T)
K087	Decanter tank tar sludge from coking operations....	(T)

TABLE IV

EPA Hazardous Waste No.	Hazardous Constituents for which listed
F001	Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, chlorinated fluorocarbons.
F002	Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane.
F003	N.A.
F004	Cresols and cresylic acid, nitrobenzene.
F005	Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine.
F006	Cadmium, hexavalent chromium, nickel, cyanide (complexed).
F007	Cyanide (salts).
F008	Cyanide (salts).
F009	Cyanide (salts).
F010	Cyanide (salts).
F011	Cyanide (salts).
F012	Cyanide (complexed).
F019	Hexavalent chromium, cyanide (complexed).
K001	Pentachlorophenol, phenol, 2-chlorophenol, p-chloro-m-cresol, 2,4-dimethylphenyl, 2,4-dinitrophenol, trichlorophenols, tetrachlorophenols, 2,4-dinitrophenol,

creosote , chrysene, naphthalene, fluoranthene, benzo(b)fluoranthene, benzo(a)pyrene, indeno (1,2,3-cd)pyrene, benz(a)anthracene, dibenz(a)anthracene, acenaphthalene.

K002 Hexavalent chromium, lead.

K003 Hexavalent chromium, lead.

K004 Hexavalent chromium.

K005 Hexavalent chromium, lead.

K006 Hexavalent chromium.

K007 Cyanide (complexed), hexavalent chromium.

K008 Hexavalent chromium.

K009 Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid.

K010 Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid, chloroacetaldehyde.

K011 Acrylonitrile, acetonitrile, hydrocyanic acid.

K013 Hydrocyanic acid, acrylonitrile, acetonitrile.

K014 Acetonitrile, acrylamide.

K015 Benzyl chloride, chlorobenzene, toluene, benzotrichloride.

K016 Hexachlorobenzene, hexachlorobutadiene, carbon tetrachloride, hexachloroethane, perchloroethylene.

K017 Epichlorohydrin, chloroethers (bis(chloromethyl) ether and bis(2-chloroethyl)ethers), trichloropropane, dichloropropanols.

K018	1,2-dichloroethane, trichloroethylene, hexachlorobutadiene, hexachlorobenzene.
K019	Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride.
K020	Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2 tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride.
K021	Antimony, carbon tetrachloride, chloroform.
K022	Phenol, tars (polycyclic aromatic hydrocarbons).
K023	Phthalic anhydride, maleic anhydride.
K024	Phthalic anhydride, 1,4-naphthoquinone.
K025	Meta-dinitrobenzene, 2,4-dinitrotoluene.
K026	Paraldehyde, pyridines, 2-picoline.
K027	Toluene diisocyanate, toluene-2,4-diamine.
K028	1,1,1-trichloroethane, vinyl chloride.
K029	1,2-dichloroethane, 1,1,1-trichloroethane, vinyl chloride, vinylidene chloride, chloroform.

K030	Hexachlorobenzene, hexachorobutadiene, hexachloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, ethylene dichloride.
K031	Arsenic.
K032	Hexachlorocyclopentadiene.
K033	Hexachlorocyclopentadiene.
K034	Hexachlorocyclopentadiene.
K035	Creosote, chrysene, naphthalene, fluoranthene,benzo(b) fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd) pyrene, benzo(a)anthracene, dibenzo(a)anthracene, acenaphthalene.
K036	Toluene, phosphorodithioic and phosphoro-thioic acid esters.
K037	Toluene, phosphorodithioic and phosphoro-thioic acid esters.
K038	Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters.
K039	Phosphorodithioic and phosphorothioic acid esters.
K040	Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters.
K041	Toxaphene.
K042	Hexachlorobenzene, ortho-dichlorobenzene.
K043	2,4-dichlorphenol, 2,6-dichlorophenol, 2,4,6-trichlorophenol.
K044	N.A.

K045	N.A.
K046	Lead.
K047	N.A.
K048	Hexavalent chromium, lead.
K049	Hexavalent chromium, lead.
K050	Hexavalent chromium.
K051	Hexavalent chromium, lead.
K052	Lead.
K060	Cyanide,naphthalene, phenolic compounds, arsenic.
K061	Hexavalent chromium, lead, cadmium.
K062	Hexavalent chromium, lead.
K069	Hexavalent chromium, lead, cadmium.
K071	Mercury.
K073	Chloroform, carbon tetrachloride, hexachloroethane, trichloroethane, tetrachloroethylene, dichloroethylene, 1,1,2,2-tetrachloroethane.
K083	Aniline, diphenylamine, nitrobenzene, phenylenediamine.
K084	Arsenic.
K085	Benzene, dichlorobenzenes, trichlorobenzenes, tetrachlorobenzenes, pentachlorobenzene, hexachlorobenzene, benzyl chloride.
K086	Lead, hexavalent chromium.
K087	Phenol, naphthalene.
K093	Phthalic anhydride, maleic anhydride.
K094	Phthalic anhydride.

K095	1,1,2-trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane.
K096	1,2-dichloroethane, 1,1,1-trichloroethane, 1,1,2-trichloroethane.
K097	Chlordane, heptachlor.
K098	Toxaphene.
K099	2,4-dichlorophenol, 2,4,6-trichlorophenol.
K100	Hexavalent chromium, lead, cadmium.
K101	Arsenic.
K102	Arsenic.
K103	Aniline, nitrobenzene, phenylenediamine.
K104	Aniline, benzene, diphenylamine, nitrobenzene, phenylenediamine.
K105	Benzene, monochlorobenzene, dichlorobenzenes, 2,4,6-trichlorophenol.
K106	Mercury.

N.A. - Waste is hazardous because it fails the test for the characteristic of ignitability, corrosivity, or reactivity.

TABLE V

Hazardous Waste No.	Substance
P023	Acetaldehyde, chloro-
P002	Acetamide, N-(aminothioxomethyl)-
P057	Acetamide, 2-fluoro-
P058	Acetic acid, fluoro-, sodium salt
P066	Acetimidic acid, N-(methylcarbamoyl)oxy)thio-, methyl ester
P001	3-(alpha-Acetonyl-benzyl)-4 hydroxycoumarin and salts
P002	1-Acetyl-2-thiourea
P003	Acrolein
P070	Aldicarb
P004	Aldrin
P005	Allyl alcohol
P006	Aluminum phosphide (R,T)
P007	5-(Aminomethyl)-3-isoxazolol
P008	4-Aminopyridine
P009	Ammonium picrate(R)
P119	Ammonium vanadate
P010	Arsenic acid
P012	Arsenic (III) oxide
P011	Arsenic (V) oxide
P011	Arsenic penotoxide
P012	Arsenic trioxide

P038	Arsine, diethyl-
P054	Aziridine
P013	Barium cyanide
P024	Benzenamine, 4-chloro-
P077	Benzenamine, 4-nitro-
P028	Benzene, (chloromethyl)-
P042	1,2-Benzenediol, 4-(1-hydroxy-2-(methylamino)ethyl)-
P014	Benzenethiol
P028	Benzyl chloride
P015	Beryllium dust
P016	Bis(chloromethyl)ether
P017	Bromoacetone
P018	Brucine
P021	Calcium cyanide
P123	Camphene, octachloro-
P103	Carbamimidoselenoic acid
P022	Carbon bisulfide
P022	Carbon disulfide
P095	Carbonyl chloride
P033	Chlorine cyanide
P023	Chloroacetaldehyde
P024	p-Chloroaniline
P026	1-(o-Chlorophenyl)thiourea
P027	3-Chloropropionitrile
P029	Copper cyanides

P030	Cyanides (soluble cyanide salts), not elsewhere specified
P031	Cyanogen
P033	Cyanogen chloride
P036	Dichlorophenylarsine
P037	Dieldrin
P038	Diethylarsine
P039	O,O-Diethyl S-(2-(ethylthio)ethyl) phosphorodithioate
P041	Diethyl-p-nitrophenyl phosphate
P040	O,O-Diethyl O-pyrazinyl phosphorothioate
P043	Diisopropyl fluorophosphate
P044	Dimethoate
P045	3,3-Dimethyl-1-(methylthio)-2-butanone, O-(methylamino) carbonyl)oxime
P071	O,O-Dimethyl O-p-nitrophenyl phosphorothioate
P082	Dimethylnitrosamine
P046	alpha, alpha-Dimethylphenethylamine
P047	4,6-Dinitro-o-cresol and salts
P034	4,6-Dinitro-o-cyclohexylphenol
P048	2,4-Dinitrophenol
P020	Dinoseb
P085	Diphosphoramide, octamethyl-
P039	Disulfoton
P049	2,4-Dithiobiuret
P109	Dithiopyrophosphoric acic, tetraethyl ester
P050	Endosulfan
P088	Endothall

P051 Endrin

P042 Epinephrine

P046 Ethanamine, 1,1-dimethyl-2-phenyl-

P084 Ethenamine, N-methyl-N-nitroso-

P101 Ethyl cyanide

P054 Ethylenimine

P097 Famphur

P056 Fluorine

P057 Fluoroacetamide

P058 Fluorocacetic acid, sodium salt

P065 Fulminic acid, mercury(II) salt (R,T)

P059 Heptachlor

P051 1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo, endo-1,4: 5,8-dimethanonaphthalene

P037 1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo, exo-1,4:5,8-demethanonaphthalene

P060 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo, endo-dimethanonaphthalene

P004 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo, exo-dimethanonaphthalene

P060 Hexachlorohexahydro-endo, endodimethanonaphthalene

P062 Hexaethyl tetraphosphate

P116 Hydrazinecarbothioamide

P068 Hydrazine, methyl-

P063 Hydrocyanic acid

P063	Hydrogen cyanide
P096	Hydrogen phosphide
P064	Isocyanic acid, methyl ester
P007	3(2H)-Isoxazolone, 5-(aminomethyl)-
P092	Mercury, (acetato-O)phenyl-
P065	Mercury fulminate (R,T)
P016	Methane, oxybis(chloro-
P112	Methane, tetranitro- (R)
P118	Methanethiol, trichloro-
P059	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4, 7,7a-tetrahydro-
P066	Methomyl
P067	2-Methylaziridine
P068	Methyl hydrazine
P064	Methyl isocyanate
P069	2-Methyllactonitrile
P071	Methyl parathion
P072	alpha-Naphthylthiourea
P073	Nickel carbonyl
P074	Nickel cyanide
P074	Nickel(II) cyanide
P073	Nickel tetracarbonyl
P075	Nicotine and salts
P076	Nitric oxide
P077	p-Nitroaniline

P078	Nitrogen dioxide
P076	Nitrogen(II) oxide
P078	Nitrogen (IV) oxide
P081	Nitroglycerine (R)
P082	N-Nitrosodimethylamine
P084	N-Nitrosomethylvinylamine
P050	5-Norbornene-2,3-dimethanol, 1,4,5,6,7,7-hexachloro, cyclic sulfite
P085	Octamethylpyrophosphoramide
P087	Osmium oxide
P087	Osmium tetroxide
P088	7-Oxabicyclo(2.2.1)heptane-2,3-dicarboxylic acid
P034	Phenol, 2-cyclohexyl-4,6-dinitro-
P047	Phenol, 2,4-di-nitro-6-methyl-, and salts
P020	Phenol, 2,4-dinitro-6-(1-methylpropyl)-
P009	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P036	Phenyl dichloroarsine
P092	Phenylmercuric acetate
P093	N-Phenylthiourea
P094	Phorate
P095	Phosgene
P096	Phosphine
P041	Phosphoric acid, diethyl p-nitrophenyl ester
P044	Phosphorodithioic acid, O,O-dimethyl S-(2-(methylamino)-2-oxoethyl)ester
P043	Phosphorofluoridic acid, bis(1-methylethyl)ester

P094	Phosphorothioic acid, O,O-diethyl S-(ethylthio) methyl ester
P089	Phosphorothioic acid, O,O-diethyl O-(p-nitrophenyl) ester
P040	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P097	Phosphorothioic acid, O,O-dimethyl O-(p-(dimethylamino)-sulfonyl)phenyl)ester
P110	Plumbane, tetraethyl-
P098	Potassium cyanide
P099	Potassium silver cyanide
P070	Propanal, 2-methyl-2-(methylthio)-, O-(methylamino) carbonyl)oxime
P101	Propanenitrile
P027	Propanenitrile, 3-chloro-
P069	Propanenitrile, 2-hydroxy-2-methyl-
P081	1,2,3-Propanetriol, trinitrate- (R)
P017	2-Propanone, 1-bromo-
P102	Propargyl alcohol
P003	2-Propenal
P005	2-Propen-1-ol
P067	1,2-Propylenimine
P102	2-Propyn-1-ol
P008	4-Pyridinamine
P075	Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)-, and salts
P111	Pyrophosphoric acid, tetraethyl ester
P103	Selenourea

P104	Silver cyanide
P105	Sodium azide
P106	Sodium cyanide
P107	Strontium sulfide
P108	Strychnidin-10-one, and salts
P018	Strychnidin-10-one, 2,3-dimethoxy-
P108	Strychnine and salts
P115	Sulfuric acid, thallium(I) salt
P109	Tetraethyldithiopyrophosphate
P110	Tetraethyl lead
P111	Tetraethylpyrophosphate
P112	Tetranitromethane (R)
P062	Tetraphosphoric acid, hexaethyl ester
P113	Thallic oxide
P114	Thallium (I) selenide
P115	Thallium (I) sulfate
P045	Thiofanox
P049	Thioimidodicarbonic diamide
P014	Thiophenol
P116	Thiosemicarbazide
P026	Thiourea, (2-chlorophenyl)-
P072	Thiourea, 1-naphthalenyl-
P093	Thiourea, phenyl-
P123	Toxaphene
P118	Trichloromethanethiol
P119	Vanadic acid, ammonium salt

P120 Vanadium pentoxide

P120 Vanadium(V) oxide

P001 Warfarin

P121 Zinc cyanide

P122 Zinc phosphide (R,T)

Additions to Table V

P089 Parathion

P113 Thallium (III) oxide

TABLE VI

Hazardous Waste No.	Substance
U001	Acetaldehyde (I)
U034	Acetaldehyde, trichloro-
U187	Acetamide, N-(4-ethoxyphenyl)-
U005	Acetamide, N-9H-fluoren-2-yl-
U112	Acetic acid, ethyl ester (I)
U144	Acetic acid, lead salt
U214	Acetic acid, thallium(I) salt
U002	Acetone (I)
U003	Acetonitrile (I,T)
U004	Acetophenone
U005	2-Acetylaminofluorene
U006	Acetyl chloride (C,R,T)
U007	Acrylamide
U008	Acrylic acid (I)
U009	Acrylonitrile
U150	Alanine, 3-(p-bis(2-chloroethyl)amino) phenyl-, L-
U011	Amitrole
U012	Aniline (I,T)
U014	Auramine
U015	Azaserine
U010	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-,
U157	Benz(j)aceanthrylene, 1,2-dihydro-3-methyl-
U016	Benz(c)acridine
U016	3,4-Benzacridine
U017	Benzal chloride
U018	Benz(a)anthracene
U018	1,2-Benzanthracene
U094	1,2-Benzanthracene, 7,12-dimethyl-
U012	Benzenamine (I,T)
U014	Benzenamine, 4,4'-carbonimidoylbis(N,N-dimethyl-
U049	Benzenamine, 4-chloro-2-methyl-
U093	Benzenamine, N,N-dimethyl-4-(phenylazo)-
U158	Benzenamine, 4,4'-methylenebis(2-chloro-
U222	Benzenamine, 2-methyl-,hydrochloride
U181	Benzenamine, 2-methyl-5-nitro
U019	Benzene (I,T)
U038	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-
	alpha-hydroxy, ethyl ester
U030	Benzene, 1-bromo-4-phenoxy-
U037	Benzene, chloro-
U190	1,2-Benzenedicarboxylic acid anhydride
U028	1,2-Benzenedicarboxylic acid, (bis(2-ethyl-hexyl) ester
U069	1,2-Benzenedicarboxylic acid, dibutyl ester
U088	1,2-Benzenedicarboxylic acid, diethyl ester
U102	1,2-Benzenedicarboxylic acid, dimethyl ester
U107	1,2-Benzenedicarboxylic acid, di-n-octyl ester

U070	Benzene, 1,2-dichloro-
U071	Benzene, 1,3-dichloro-
U072	Benzene, 1,4-dichloro-
U017	Benzene, (dichloromethyl)-
U223	Benzene, 1,3-diisocyanatomethyl- (R,T)
U239	Benzene, dimethyl- (I,T)
U201	1,3-Benzenediol
U127	Benzene, hexachloro-
U056	Benzene, hexahydro- (I)
U188	Benzene, hydroxy-
U220	Benzene, methyl-
U105	Benzene, 1-methyl-2,4-dinitro
U106	Benzene, 1-methyl-2,6-dinitro
U203	Benzene, 1,2-methylenedioxy-4-allyl-
U141	Benzene, 1,2-methylenedioxy-4-propenyl-
U090	Benzene, 1,2-methylenedioxy-4-propyl-
U055	Benzene, (1-methylethyl)-(I)

U169	Benzene, nitro- (I,T)
U183	Benzene, pentachloro-
U185	Benzene, pentachloronitro-
U020	Benzenesulfonic acid chloride (C,R)
U020	Benzenesulfonyl chloride (C,R)
U207	Benzene, 1,2,4,5-tetrachloro-
U023	Benzene, (trichloromethyl)-(C,R,T)
U234	Benzene, 1,3,5-trinitro- (R,T)
U021	Benzidine
U202	1,2-Benzisothiazolin-3-one, 1,1-dioxide, and salts
U120	Benzo(j,k)fluorene
U022	Benzo(a)pyrene
U022	3,4-Benzopyrene
U197	p-Benzoquinone
U023	Benzotrichloride (C,R,T)
U050	1,2-Benzphenanthrene
U085	2,2'-Bioxirane (I,T)
U021	(1,1'-Biphenyl)-4,4'-diamine
U073	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dichloro-
U091	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dimethoxy
U095	(1,1'-Biphenyl)-4,4'-diamine, 3,3'-dimethyl-
U024	Bis(2-chloroethoxy)methane
U027	Bis(2-chloroisopropyl)ether
U244	Bis(dimethylthiocarbamoyl)disulfide
U028	Bis(2-ethylhexyl)phthalate
U246	Bromine cyanide

U225	Bromoform
U030	4-Bromophenyl phenyl ether
U128	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U172	1-Butanamine, N-butyl-N-nitroso-
U035	Butanoic acid, 4-(Bis(2-chloroethyl)amino) benzene-
U031	1-Butanol(I)
U159	2-Butanone (I,T)
U160	2-Butanone peroxide (R,T)
U053	2-Butenal
U074	2-Butene, 1,4-dichloro-(I,T)
U031	n-Butyl alcohol (I)
U136	Cacodylic acid
U032	Calcium chromate
U238	Carbamic acid, ethyl ester
U178	Carbamic acid, methylnitroso-,ethyl ester
U176	Carbamide, N-ethyl-N-nitroso-
U177	Carbamide, N-methyl-N-nitroso-
U219	Carbamide, thio-
U097	Carbamoyl chloride, dimethyl-
U215	Carbonic acid, dithallium(I) salt
U156	Carbonochloridic acid, methyl ester (I,T)
U033	Carbon oxyfluoride (R,T)
U211	Carbon tetrachloride
U033	Carbonyl fluoride (R,T)
U034	Chloral
U035	Chlorambucil

U036	Chlordane, technical
U037	Chlorobenzene
U039	4-Chloro-m-cresol
U041	1-Chloro-2,3-epoxypropane
U042	2-Chloroethyl vinyl ether
U044	Chloroform
U046	Chloromethyl methyl ether
U047	beta-Chloronaphthalene
U048	o-Chlorophenol
U049	4-Chloro-o-toluidine, hydrochloride
U032	Chromic acid, calcium salt
U050	Chrysene
U051	Creosote
U052	Cresols
U052	Cresylic acid
U053	Crotonaldehyde
U055	Cumene(I)
U246	Cyanogen bromide
U197	1,4-Cyclohexadienedione
U056	Cyclohexane(I)
U057	Cyclohexanone(I)
U130	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
U058	Cyclophosphamide
U240	2,4-D, salts and esters
U059	Daunomycin

U060 DDD

U061 DDT

U142 Decachlorooctahydro-1,3,4-metheno-2H-cyclobuta (c,d)-pentalen-2-one

U062 Diallate

U133 Diamine (R,T)

U221 Diaminotoluene

U063 Dibenz(a,h)anthracene

U063 1,2:5,6-Dibenzanthracene

U064 1,2:7,8-Dibenzopyrene

U064 Dibenz(a,i)pyrene

U066 1,2-Dibromo-3-chloropropane

U069 Dibutyl phthalate

U062 S-(2,3-Dichloroallyl) diisopropylthiocarbamate

U070 o-Dichlorobenzene

U071 m-Dichlorobenzene

U072 p-Dichlorobenzene

U073 3,3'-Dichlorobenzidine

U074 1,4-Dichloro-2-butene (I,T)

U075 Dichlorodifluoromethane

U192 3,5-Dichloro-N-(1,1-dimethyl-2-propynyl) benzamide

U060 Dichloro diphenyl dichloroethane

U061 Dichloro diphenyl trichloroethane

U078 1,1-Dichloroethylene

U079 1,2-Dichloroethylene

U025 Dichloroethyl ether

U081	2,4-Dichlorophenol
U082	2,6-Dichlorophenol
U240	2,4-Dichlorophenoxyacetic acid, salts and esters
U083	1,2-Dichloropropane
U084	1,3-Dichloropropene
U085	1,2:3,4-Diepoxybutane (I,T)
U108	1,4-Diethylene dioxide
U086	N,N-Diethylhydrazine
U087	O,O-Diethyl-S-methyl-dithiophosphate
U088	Diethyl phthalate
U089	Diethylstilbestrol
U148	1,2-Dihydro-3,6-pyridazinedione
U090	Dihydrosafrole
U091	3,3'-Dimethoxybenzidine
U092	Dimethylamine(I)
U093	Dimethylaminoazobenzene
U094	7,12-Dimethylbenz(a)anthracene
U095	3,3'-Dimethylbenzidine
U096	alpha, alpha-Dimethylbenzylhydroperoxide (R)
U097	Dimethylcarbamoyl chloride
U098	1,1-Dimethylhydrazine
U099	1,2-Dimethylhydrazine
U101	2,4-Dimethylphenol
U102	Dimethyl phthalate
U103	Dimethyl sulfate
U105	2,4-Dinitrotoluene

U106	2,6-Dinitrotoluene
U107	Di-n-octyl phthalate
U108	1,4-Dioxane
U109	1,2-Diphenylhydrazine
U110	Dipropylamine (I)
U111	Di-n-propylnitrosamine
U001	Ethanal(I)
U174	Ethanamine, N-ethyl-N-nitroso-
U067	Ethane, 1,2-dibromo-
U076	Ethane, 1,1-dichloro-
U077	Ethane, 1,2-dichloro-
U114	1,2-Ethanediylbiscarbamodithioic acid
U131	Ethane, 1,1,1,2,2,2-hexachloro-
U024	Ethane, 1,1'-(methylenebis(oxy))bis(2-chloro-
U003	Ethanenitrile (I,T)
U117	Ethane, 1,1'-oxybis-(I)
U025	Ethane, 1,1'-oxybis(2-chloro-
U184	Ethane, pentachloro-
U208	Ethane, 1,1,1,2-tetrachloro-
U209	Ethane, 1,1,2,2-tetrachloro-
U218	Ethanethioamide
U227	Ethane, 1,1,2-trichloro-
U043	Ethene, chloro-
U042	Ethene, 2-chloroethoxy-
U078	Ethene, 1,1-dichloro-
U079	Ethene, trans-1,2-dichloro-

U210	Ethene, 1,1,2,2-tetrachloro-
U173	Ethanol, 2,2'-(nitrosoimino)bis-
U004	Ethanone,1-phenyl-
U006	Ethanoyl chloride (C,R,T)
U112	Ethyl acetate (I)
U113	Ethyl acrylate (I)
U238	Ethyl carbamate (urethan)
U038	Ethyl 4,4'-dichlorobenzilate
U114	Ethylenebis(dithiocarbamic acid), salts and esters
U067	Ethylene dibromide
U077	Ethylene dichloride
U115	Ethylene oxide
U116	Ethylene thiourea
U117	Ethyl ether (I)
U076	Ethylidene dichloride
U118	Ethyl methacrylate
U119	Ethyl methanesulfonate
U139	Ferric dextran
U120	Fluoranthene
U122	Formaldehyde
U123	Formic acid (C,T)
U124	Furan (I)
U125	2-Furancarboxaldehyde (I)
U147	2,5-Furandione
U213	Furan, tetrahydro-(I)
U125	Furfural (I)

U124 Furfuran (I)

U206 D-Gluocopyranose, 2-deoxy-2(3-methyl-3-nitrosoureido)-

U126 Glycidylaldehyde

U163 Guanidine, N-nitroso-N-methyl-N'-nitro-

U127 Hexachlorobenzene

U128 Hexachlorobutadiene

U129 Hexachlorocyclohexane (gamma isomer)

U130 Hexachlorocyclopentadiene

U131 Hexachloroethane

U132 Hexachlorophene

U243 Hexachloropropene

U133 Hydrazine (R,T)

U086 Hydrazine, 1,2-diethyl-

U098 Hydrazine, 1,1-dimethyl-

U099 Hydrazine, 1,2-dimethyl-

U109 Hydrazine, 1,2-diphenyl-

U134 Hydrofluoric acid (C,T)

U134 Hydrogen fluoride (C,T)

U135 Hydrogen sulfide

U096 Hydroperoxide, 1-methyl-1-phenylethyl-(R)

U136 Hydroxydimethylarsine oxide

U116 2-Imidazolidinethione

U137 Indeno(1,2,3-cd)pyrene

U245 Indomethacin

U139 Iron dextran

U140 Isobutyl alcohol(I,T)

U141	Isosafrole
U142	Kepone
U143	Lasiocarpine
U144	Lead acetate
U145	Lead phosphate
U146	Lead subacetate
U129	Lindane
U147	Maleic anhydride
U148	Maleic hydrazide
U149	Malononitrile
U150	Melphalan
U151	Mercury
U152	Methacrylonitrile (I,T)
U092	Methanamine, N-methyl- (I)
U029	Methane, bromo-
U045	Methane, chloro-(I,T)
U046	Methane, chloromethoxy-
U068	Methane, dibromo-
U080	Methane, dichloro-
U075	Methane, dichlorodifluoro-
U138	Methane, iodo-
U119	Methanesulfonic acid, ethyl ester
U211	Methane, tetrachloro-
U121	Methane, trichlorofluoro-
U153	Methanethiol (I,T)
U225	Methane, tribromo-

U044 Methane, trichloro-

U123 Methanoic acid (C,T)

U036 4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3a, 4,7,7a-tetrahydro-

U154 Methanol (I)

U155 Methapyrilene

U247 Methoxychlor or Ethane, 1,1,1-trichloro-2,2-bis(p-methoxy phenyl)

U154 Methyl alcohol(I)

U029 Methyl bromide

U186 1-Methylbutadiene (I)

U045 Methyl chloride (I,T)

U156 Methyl chlorocarbonate (I,T)

U226 Methylchloroform

U157 3-Methylcholanthrene

U158 4,4'-Methylenebis(2-chloroaniline)

U132 2,2'-Methylenebis(3,4,6-trichlorophenol)

U068 Methylene bromide

U080 Methylene chloride

U122 Methylene oxide

U159 Methyl ethyl ketone (I,T)

U160 Methyl ethyl ketone peroxide (R,T)

U138 Methyl iodide

U161 Methyl isobutyl ketone (I)

U162 Methyl methacrylate (I,T)

U163 N-Methyl-N'-nitro-N-nitrosoguanidine

U161 4-Methyl-2-pentanone (I)

U164 Methylthiouracil

U010 Mitomycin C

U059 5,12-Naphthacenedione, (8S-cis)-8-acetyl-10-(3-amino-2,3,6-trideoxy-alpha-L-lyxo-hexopyranosyl)oxyl)-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-

U165 Naphthalene

U047 Naphthalene, 2-chloro-

U166 1,4-Naphthalenedione

U236 2,7-Naphthalenedisulfonic acid, 3,3'-((3,3'-dimethyl-(1,1'-biphenyl)-4,4'diyl))-bis(azo)bis(5-amino-4-hydroxy)-,tetrasodium salt

U166 1,4-Naphthoquinone

U167 1-Naphthylamine

U168 2-Naphthylamine

U167 alpha-Naphthylamine

U168 beta-Naphthylamine

U026 2-Naphthylamine, N,N-bis(2-chloroethyl)-

U169 Nitrobenzene (I,T)

U170 p-Nitrophenol

U171 2-Nitropropane (I)

U172 N-Nitrosodi-n-butylamine

U173 N-Nitrosodiethanolamine

U174 N-Nitrosodiethylamine

U111 N-Nitrosodi-N-propylamine

U176	N-Nitroso-N-ethylurea
U177	N-Nitroso-N-methylurea
U178	N-Nitroso-N-methylurethane
U179	N-Nitrosopiperidine
U180	N-Nitrosopyrrolidine
U181	5-Nitro-o-toluidine
U193	1,2-Oxathiolane, 2,2-dioxide
U058	2H-1,3,2-Oxazaphosphine, 2(bis(2-chloroethyl)amino) tetrahydro-,2-oxide
U115	Oxirane (I,T)
U041	Oxirane, 2-(chloromethyl)-
U182	Paraldehyde
U183	Pentachlorobenzene
U184	Pentachloroethane
U185	Pentachloronitrobenzene
U242	Pentachlorophenol
U186	1,3-Pentadiene (I)
U187	Phenacetin
U188	Phenol
U048	Phenol, 2-chloro-
U039	Phenol, 4-chloro-3-methyl-
U081	Phenol, 2,4-dichloro-
U082	Phenol, 2,6-dichloro-
U101	Phenol, 2,4-dimethyl-
U170	Phenol, 4-nitro-
U242	Phenol, pentachloro-

U212	Phenol, 2,3,4,6-tetrachloro-
U230	Phenol, 2,4,5-trichloro-
U231	Phenol, 2,4,6-trichloro-
U137	1,10-(1,2-Phenylene)pyrene
U145	Phosphoric acid, lead salt
U087	Phosphorodithioic acid, O,O-diethyl S-methyl ester
U189	Phosphorus sulfide
U190	Phthalic anhydride
U191	2-Picoline
U192	Pronamide
U194	1-Propanamine (I,T)
U110	1-Propanamine, N-propyl-(I)
U066	Propane, 1,2-dibromo-3-chloro-
U149	Propanedinitrile
U171	Propane, 2-nitro-(I)
U027	Propane, 2,2'oxybis(2-chloro-
U193	1,3-Propane sultone
U235	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U126	1-Propanol, 2,3-epoxy-
U140	1-Propanol, 2-methyl-(I,T)
U002	2-Propanone (I)
U007	2-Propenamide
U084	Propene, 1,3-dichloro-
U243	1-Propene, 1,1,2,3,3,3-hexachloro-
U009	2-Propenenitrile

U152	2-Propenenitrile, 2-methyl-(I,T)
U008	2-Propenoic acid (I)
U113	2-Propenoic acid, ethyl ester (I)
U118	2-Propenoic acid, 2-methyl-,ethyl ester
U162	2-Propenoic acid, 2-methyl-, methyl ester (I,T)
U233	Propionic acid, 2-(2,4,5-trichlorophenoxy)-
U194	n-Propylamine (I,T)
U083	Propylene dichloride
U196	Pyridine
U155	Pyridine, 2-((2-dimethylamino)ethyl)-2-thenylamino-
U179	Pyridine, hexahydro-N-nitroso-
U191	Pyridine, 2-methyl-
U164	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
U180	Pyrrole, tetrahydro-N-nitroso-
U200	Reserpine
U201	Resorcinol
U202	Saccharin and salts
U203	Safrole
U204	Selenious acid
U204	Selenium dioxide
U205	Selenium disulfide (R,T)
U015	L-Serine, diazoacetate (ester)
U233	Silvex
U089	4,4'-Stilbenediol, alpha, alpha'-diethyl-
U206	Streptozotocin
U135	Sulfur hydride

U103	Sulfuric acid, dimethyl ester
U189	Sulfur phosphide (R)
U205	Sulfur selenide (R,T)
U232	2,4,5-T
U207	1,2,4,5-Tetrachlorobenzene
U208	1,1,1,2-Tetrachloroethane
U209	1,1,2,2-Tetrachloroethane
U210	Tetrachloroethylene
U212	2,3,4,6-Tetrachlorophenol
U213	Tetrahydrofuran (I)
U214	Thallium(I) acetate
U215	Thallium(I) carbonate
U216	Thallium(I) chloride
U217	Thallium(I) nitrate
U218	Thioacetamide
U153	Thiomethanol(I,T)
U219	Thiourea
U244	Thiram
U220	Toluene
U221	Toluenediamine
U223	Toluene diisocyanate (R,T)
U222	o-Toluidine hydrochloride
U011	1H-1,2,4-Triazol-3-amine
U226	1,1,1-Trichloroethane
U227	1,1,2-Trichloroethane

U228	Trichloroethene
U228	Trichloroethylene
U121	Trichloromonofluoromethane
U230	2,4,5-Trichlorophenol
U231	2,4,6-Trichlorophenol
U232	2,4,5-Trichlorophenoxyacetic acid
U234	sym-Trinitrobenzene (R,T)
U182	1,3,5-Trioxane, 2,4,6-trimethyl-
U235	Tris(2,3-dibromopropyl)phosphate
U236	Trypan blue
U237	Uracil, 5(bis(2-chloroethyl)amino)-
U237	Uracil mustard
U043	Vinyl chloride
U239	Xylene(I)
U200	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-((3,4,5-trimethoxy-benzoyl)oxy)-, methyl ester

TABLE VII

Hazardous Constituents

Acetonitrile (Ethanenitrile)

Acetophenone (Ethanone, 1-phenyl)

3-(alpha-Acetonylbenzyl)-4-hydroxycoumarin and salts (Warfarin)

2-Acetylaminofluorene (Acetamide, N-(9H-fluoren-2-yl)-)

Acetyl chloride (Ethanoyl chloride)

1-Acetyl-2-thiourea (Acetamide, N-(aminothioxomethyl)-)

Acrolein (2-Propenal)

Acrylamide (2-Propenamide)

Acrylonitrile (2-Propenenitrile)

Aflatoxins

Aldrin (1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a,8b-hexahydro-endo,exo-1,4:5,8-Dimethanonaphthalene)

Allyl alcohol (2-Propen-1-ol)

Aluminum phosphide

4-Aminobiphenyl ((1,1'-Biphenyl)-4-amine)

6-Amino-1,1a,2,8,8a,8b-hexahydro-8-(hydroxymethyl)-8a-methoxy-5-methyl-carbamate azirino(2',3':3,4)pyrrolo(1,2-a)indole-4,7-dione, (ester)(Mitomycin C)(Azirino(2'3':3,4)pyrrolo(1,2-a)indole-4,7-dione,6-amino-8-(((amino-carbonyl)oxy)methyl)-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methy-)

5-(Aminoethyl)-3-isoxazolol(3(2H)-Isoxazolone, 5(aminomethyl)-)

4-Aminopyridine(4-Pyridinamine)

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

Aniline(Benzenamine)

Antimony and compounds, N.O.S.*

Aramite (Sulfurous acid, 2-chloroethyl-,2-(4-(1,1-dimethylethyl) phenoxy)-1-methylethyl ester)

Arsenic and compounds, N.O.S.*

Arsenic acid (Orthoarsenic acid)

Arsenic pentoxide (Arsenic (V) oxide)

Arsenic trioxide (Arsenic (III) oxide)

Auramine (Benzenamine, 4,4'-carbonimidoylbis (N,N-Dimethyl-, monohydrochloride)

Azaserine (L-Serine, diazoacetate (ester)

Barium and compounds, N.O.S.*

Barium cyanide

Benz(c)acridine (3,4-Benzacridine)

Benz(a)anthracene (1,2-Benzanthracene)

Benzene (Cyclohexatriene)

Benzenearsonic acid (Arsonic acid, phenyl-)

Benzene, dichloromethyl-(Benzal chloride)

Benzenethiol (Thiophenol)

Benzidine ((1,1'-Biphenyl)-4,4'diamine)

Benzo(b)fluoranthene (2,3-Benzofluoranthene)

Benzo(j)fluoranthene(7,8-Benzofluoranthene)

Benzo(a)pyrene (3,4-Benzopyrene)

p-Benzoquinone (1,4-Cyclohexadienedione)

Benzotrichloride(Benzene, trichloromethyl-)

Benzyl chloride (Benzene, trichloromethyl-)

Beryllium and compounds, N.O.S.*

Bis(2-chloroethoxy)methane (Ethane, 1,1'-(methylenebis(oxy))bis (2-chloro-))

Bis(2-chloroethyl) ether (Ethane, 1,1'-oxybis(2-chloro-))

N,N-Bix(2-chloroethyl)-2-naphthylamine (Chlornaphazine)

Bis(2-chloroisopropyl) ether (Propane, 2,2'-oxybis(2-chloro-))

Bis(chloromethyl) ether (Methane, oxybis(chloro-))

Bis(2-ethylhexyl) phthalate (1,2-Benzenedicarboxylic acid, bis (2-ethylhexyl)ester)

Bromoacetone (2-Propanone, 1-bromo-)

Bromomethane (Methyl bromide)

4-Bromophenyl phenyl ether (Benzene, 1-bromo-4-phenoxy-)

Brucine (Strychnidin-10-one, 2,3-dimethoxy-)

2-Butanone peroxide (Methyl ethyl ketone, peroxide)

Butyl benzyl phthalate (1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester)

2-sec-Butyl-4,6-dinitrophenol(DNBP) (Phenol, 2,4-dinitro-6-(1-methylpropyl)-)

Cadmium and compounds, N.O.S.*

Calcium chromate (Chromic acid, calcium salt)

Calcium cyanide

Carbon disulfide (Carbon bisulfide)

Carbon oxyfluoride (Carbonyl fluoride)

Chloral (Acetaldehyde, trichloro-)

Chlorambucil (Butanoic acid, 4-(bis(2-chloroethyl)amino)benzene-)

Chlordane (alpha and gamma isomers) (4,7-Methanoindan, 1,2,4,5, 6,7,8,8-octachloro-3,4,7,7a-tetrahydro-)(alpha and gamma isomers)

Chlorinated benzenes, N.O.S.*

Chlorinated ethane, N.O.S.*

Chlorinated fluorocarbons, N.O.S.*

Chlorinated naphthalene, N.O.S.*

Chlorinated phenol, N.O.S.*

Chloroacetaldehyde (Acetaldehyde, chloro-)

Chloroalkyl ethers, N.O.S.*

p-Chloroaniline (Benzenamine, 4-chloro-)

Chlorobenzene (Benzene, chloro-)

Chlorobenzilate (Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-,ethyl ester)

p-Chloro-m-cresol (Phenol, 4-chloro-3-methyl)

1-Chloro-2,3-epoxypropane (Oxirane, 2-(chloromethyl)-)

2-Chloroethyl vinyl ether (Ethene, (2-(chloroethoxy)-)

Chloroform (Methane, trichloro-)

Chloromethane (Methyl chloride)

Chloromethyl methyl ether (Methane, chloromethoxy-)

2-Chloronaphthalene (Naphthalene, beta-chloro-)

2-Chlorophenol (Phenol, o-chloro-)

1-(o-Chlorophenyl)thiourea (Thiourea, (2-chlorophenyl)-)

3-Chloropropionitrile (Propanenitrile, 3-chloro-)

Chromium and compounds, N.O.S.*

Chrysene (1,2-Benzphenanthrene)

Citrus red No. 2 (2-Naphthol, 1-((2,5-dimethoxyphenyl)azo)-)

Coal tars

Copper cyanide

Creosote (Creosote, wood)

Cresols (Cresylic acid)(Phenol, methyl-)

Crotonaldehyde (2-Butenal)

Cyanides (soluble salts and complexes), N.O.S.*

Cyanogen (Ethanedinitrile)

Cyanogen bromide (Bromine cyanide)

Cyanogen chloride (Chlorine cyanide)

Cycasin (beta-D-Gluocopyranoside, (methyl-ONN-azoxy)methyl-)

2-Cyclohexyl-4,6-dinitrophenol (Phenol, 2-cyclohexyl-4,6-dinitro-)

Cyclophosphamide (2H-1,3,2,-Oxazaphosphorine, (bis(2-chloroethyl) amino)-tetrahydro-, 2-oxide)

Daunomycin (5,12-Naphthacenedione, (8S-cis)-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-)

DDD (Dichlorodiphenyldichloroethane) (Ethane, 1,1-dichloro-2,2-bis(p-chlorophenyl)-)

DDE (Ethylene, 1,1-dichloro-2,2-bis(4-chlorophenyl)-)

DDT (Dichlorodiphenyltrichloroethane) (Ethane, 1,1,1-trichloro-2,2-bis(p-chlorophenyl)-)

Diallate (S-(2,3-dichloroallyl) diisopropylthiocarbamate)

Dibenz(a,h)acridine (1,2,5,6-Dibenzacridine)

Dibenz(a,j)acridine (1,2,7,8-Dibenzacridine)

Dibenz(a,h)anthracene (1,2,5,6-Dibenzanthracene)

7H-Dibenzo(c,g)carbazole (3,4,5,6-Dibenzcarbazole)

Dibenzo(a,e)pyrene (1,2,4,5-Dibenzpyrene)

Dibenzo(a,h)pyrene (1,2,5,6-Dibenzpyrene)

Dibenzo(a,i)pyrene (1,2,7,8-Dibenzpyrene)

1,2-Dibromo-3-chloropropane (Propane, 1,2-dibromo-3-chloro-)

1,2-Dibromoethane (Ethylene dibromide)

Dibromomethane (Methylene bromide)

Di-n-butyl phthalate (1,2-Benzenedicarboxylic acid, dibutyl ester)

o-Dichlorobenzene (Benzene, 1,2-dichloro-)

m-Dichlorobenzene (Benzene, 1,3-dichloro-)

p-Dichlorobenzene (Benzene, 1,4-dichloro-)

Dichlorobenzene, N.O.S.* (Benzene, dichloro-, N.O.S.*)

3,3'-Dichlorobenzidine (1,1'-Biphenyl)-4,4'-diamine, 3,3'-dichloro-)

1,4-Dichloro-2-butene (2-Butene, 1,4-dichloro-)

Dichlorodifluoromethane (Methane, dichlorodifluoro-)

1,1-Dichloroethane (Ethylidene dichloride)

1,2-Dichloroethane (Ethylene dichloride) trans-1,2-Dichloroethene (1,2-Dichloroethylene)

Dichloroethylene, N.O.S.* (Ethene, dichloro-, N.O.S.*

1,1-Dichloroethylene (Ethene, 1,1-dichloro-)

Dichloromethane (Methylene chloride)

2,4-Dichlorophenol (Phenol, 2,4-dichloro-)

2,6-Dichlorophenol (Phenol, 2,6-dichloro-)

2,4-Dichlorophenoxyacetic acid (2,4-D), salts and esters (Acetic acid, 2,4-dichlorophenoxy-, salts and esters)

Dichlorophenylarsine (Phenyl dichloroarsine)

Dichloropropane, N.O.S.* (Propane, dichloro-, N.O.S.*)

1,2-Dichloropropane (Propylene dichloride)

Dichloropropanol, N.O.S.* (Propanol, dichloro-, N.O.S.*)

Dichloropropene, N.O.S.* (Propene, dichloro-, N.O.S.*)

1,3-Dichloropropene (1-Propene, 1,3-dichloro-)

Dieldrin (1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8, 8a-octa-hydro-endo, exo-1,4:5,8-Dimethanonaphthalene)

1,2:3,4-Diepoxybutane (2,2'-Bioxirane)

Diethylarsine (Arsine, diethyl-)

N,N-Diethylhydrazine (Hydrazine, 1,2-diethyl)

O,O-Diethyl S-methyl ester of phosphorodithioic acid (Phosphorodithioic acid, O,O-diethyl S-methyl ester

O,O-Diethylphosphoric acid, O-p-nitrophenyl ester (Phosphoric acid, diethyl p-nitrophenyl ester)

Diethyl phthalate (1,2-Benzenedicarboxylic acid, diethyl ester)

O,O-Diethyl O-2-pyrazinyl phosphorothioate (Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester

Diethylstilbesterol (4,4'-Stilbenediol, alpha, alpha-diethyl, bis(dihydrogen phosphate, (E)-)

Dihydrosafrole (Benzene, 1,2-methylenedioxy-4-propyl-)

3,4-Dihydroxy-alpha-(methylamino)methyl benzyl alcohol (1,2-Benzenediol, 4-(1-hydroxy-2-(methylamino)ethyl)-)

Diisopropylfluorophosphate (DFP) (Phosphorofluoridic acid, bis(1-methylethyl)ester)

Dimethoate (Phosphorodithioic acid, O,O-dimethyl S-(2-(methylamino)-2-oxoethyl)ester

3,3'-Dimethoxybenzidine ((1,1'-Biphenyl)-4,4'diamine, 3-3'-dimethoxy-)

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

7,12-Dimethylbenz(a)anthracene (1,2-Benzanthracene, 7,12-dimethyl-)

3,3'-Dimethylbenzidine ((1,1'-Biphenyl)-4,4'-diamine, 3,3'-dimethyl-)

Dimethylcarbamoyl chloride (Carbamoyl chloride, dimethyl-)

1,1-Dimethylhydrazine (Hydrazine, 1,1-dimethyl-)

1,2-Dimethylhydrazine (Hydrazine, 1,2-dimethyl-)

3,3-Dimethyl-1-(methylthio)-2-butanone, O-((methylamino)carbonyl) oxime (Thiofanox)

alpha, alpha-Dimethylphenethylamine (Ethanamine, 1,1-dimethyl-2-phenyl-)

2,4-Dimethylphenol (Phenol, 2,4-dimethyl-)

Dimethyl phthalate (1,2-Benzenedicarboxylic acid, dimethyl ester)

Dimethyl sulfate (Sulfuric acid, dimethyl ester)

Dinitrobenzene, N.O.S.* (Benzene, dinitro-, N.O.S.*)

4,6-Dinitro-o-cresol and salts (Phenol,2,4-dinitro-6-methyl-, and salts)

2,4-Dinitrophenol (Phenol, 2,4-dinitro-)

2,4-Dinitrotoluene (Benzene, 1-methyl-2,4-dinitro-)

2,6-Dinitrotoluene (Benzene, 1-methyl-2,6-dinitro-)

Di-n-octyl phthalate (1,2-Benzenedicarboxylic acid, dioctyl ester)

1,4-Dioxane (1,4-Diethylene oxide)

Diphenylamine (Benzenamine, N-phenyl-)

1,2-Diphenylhydrazine (Hydrazine, 1,2-diphenyl-)

Di-n-propylnitrosamine (N-Nitroso-di-n-propylamine)

Disulfoton (O,O-diethyl S-(2-(ethylthio)ethyl) phosphorodithioate)

2,4-Dithiobiuret (Thioimidodicarbonic diamide)

Endosulfan (5-Norbornene, 2,3-dimethanol, 1,4,5,6,7,7-hexachloro-, cyclic sulfite)

Endrin and metabolites (1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4, 4a,5,6,7,8,8a-octahydro-endo,endo-1,4:5,8-dimethanonaphthalene, and metabolites)

Ethyl carbamate (Urethan)(Carbamic acid, ethyl ester)

Ethyl cyanide (propanenitrile)

Ethylenebisdithiocarbamic acid, salts and esters (1,2-Ethanediyl-biscarbamodithioic acid, salts and esters

Ethyleneimine (Aziridine)

Ethylene oxide (Oxirane)

Ethylenethiourea (2-Imidazolidinethione)

Ethyl methacrylate (2-Propenoic acid, 2-methyl-, ethyl ester)

Ethyl methanesulfonate (Methanesulfonic acid, ethyl ester)

Fluoranthene (Benzo(j,k)fluorene)

Fluorine

2-Fluoroacetamide (Acetamide, 2-fluoro-)

Fluoroacetic acid, sodium salt (Acetic acid, fluoro-, sodium salt)

Formaldehyde (Methylene oxide)

Formic acid (Methanoic acid)

Glycidylaldehyde (1-Propanol-2,3-epoxy)

Halomethane, N.O.S.*

Heptachlor (4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-)

Hexachlorobenzene (Benzene, hexachloro-)

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

Hexachlorocyclohexane (all isomers) (Lindane and isomers)

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

Hexachloroethane (Ethane, 1,1,1,2,2,2-hexachloro-)

1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-1,4:5,8-endo, endo-dimethanonaphthalene (Hexachlorohexahydro-endo,endo-dimethanonaphthalene)

Hexachlorophene (2,2'-Methylenebis(3,4,6-trichlorophenol))

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

Hexaethyl tetraphosphate (Tetraphosphoric acid, hexaethyl ester)

Hydrazine (Diamine)

Hydrocyanic acid (Hydrogen cyanide)

Hydrofluoric acid (Hydrogen fluoride)

Hydrogen sulfide (Sulfur hydride)

Hydroxydimethylarsine oxide (Cacodylic acid)

Indeno (1,2,3-cd)pyrene (1,10-(1,2-phenylene)pyrene)

Iodomethane (Methyl iodide)

Iron dextran (Ferric dextran)

Isocyanic acid, methyl ester (Methyl isocyanate)

Isobutyl alcohol (1-Propanol, 2-methyl-)

Isosafrole (Benzene, 1,2-methylenedioxy-4-allyl-)

Kepone (Decachlorooctahydro-1,3,4-Methano-2H-cyclobuta (cd)pentalen-2-one)

Lasiocarpine (2-Butenoic acid, 2-methyl-, 7-((2,3,-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy)methyl)-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester)

Lead and compounds, N.O.S.*

Lead acetate (Acetic acid, lead salt)

Lead phosphate (Phosphoric acid, lead salt)

Lead subacetate (Lead, bis(acetato-O)tetrahydroxytri-)

Maleic anhydride (2,5-Furandione)

Maleic hydrazide (1,2-Dihydro-3,6-pyridazinedione)

Malononitrile (Propanedinitrile)

Melphalan (Alanine, 3-(p-bis(2-chloroethyl)amino)phenyl-, L-)

Mercury fulminate (Fulminic acid, mercury salt)

Mercury and compounds, N.O.S.*

Methacrylonitrile (2-Propenenitrile, 2-methyl-)

Methanethiol (Thiomethanol)

Methapyrilene (Pyridine, 2-((2-dimethylamino)ethyl)-2-thenyl-amino-)

Metholmyl (Acetimidic acid, N-((methylcarbamoyl)oxy)thio-, methyl ester

Methoxychlor (Ethane, 1,1,1-trichloro-2,2'-bis(p-methoxyphenyl)-)

2-Methylaziridine (1,2-Propylenimine)

3-Methylcholanthrene (Benz(j)aceanthrylene, 1,2-dihydro-3-methyl-)

Methyl chlorocarbonate (Carbonochloridic acid, methyl ester)

4,4'-Methylenebis(2-chloroaniline) (Benzenamine, 4,4'-methylene-bis-(2-chloro-)

Methyl ethyl ketone (MEK) (2-Butanone)

Methyl hydrazine(Hydrazine, methyl-)

2-Methyllactonitrile (Propanenitrile, 2-hydroxy-2-methyl-)

Methyl methacrylate (2-Propenoic acid, 2-methyl-,methyl ester)

Methyl methanesulfonate (Methanesulfonic acid, methyl ester)

2-Methyl-2-(methylthio)propionaldehyde-o-(methylcarbonyl)oxime (Propanal, 2-methyl-2-(methylthio)-, O-((methylamino)carbonyl) oxime)

N-Methyl-N'-nitro-N-nitrosoguanidine (Guanidine, N-nitroso-N-methyl-N'nitro-)

Methyl parathion (O,O-dimethyl O-(4-nitrophenyl)phosphorothioate)

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

Mustard gas (Sulfide, bis(2-chloroethyl)-)

Naphthalene

1,4-Naphthoquinone (1,4-Naphthalenedione)

1-Naphthylamine (alpha-Naphthylamine)

2-Naphthylamine (beta-Naphthylamine)

1-Naphthyl-2-thiourea (Thiourea, 1-naphthalenyl-)

Nickel and compounds, N.O.S.*

Nickel carbonyl (Nickel tetracarbonyl)

Nicotine and salts (Pyridine, (S)-3-(1-methyl-2-pyrrolidinyl)-, and salts)

Nitric oxide (Nitrogen (II) oxide)

p-Nitroaniline (Benzenamine, 4-nitro-)

Nitrobenzine (Benzene, nitro-)

Nitrogen dioxide (Nitrogen (IV) oxide)

Nitrogen mustard and hydrochloride salt (Ethanamine, 2-chloro-, N-(2-chloroethyl)-N-methyl-, and hydrochloride salt)

Nitrogen mustard N-Oxide and hydrochloride salt (Ethanamine, 2-chloro-, N-(2-chloroethyl)-N-methyl-, and hydrochloride salt)

Nitroglycerine(1,2,3-Propanetriol, trinitrate)

4-Nitrophenol (Phenol, 4-nitro-)

4-Nitroquinoline-1-oxide (Quinoline,4-nitro-1-oxide-)

Nitrosamine, N.O.S.*

N-Nitrosodi-n-butylamine(1-Butanamine, N-butyl-N-nitroso-)

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

N-Nitrosodiethylamine (Ethanamine, N-ethyl-N-nitroso-)

N-Nitrosodimethylamine (Dimethylnitrosamine)

N-Nitroso-N-ethylurea (Carbamide, N-ethyl-N-nitroso-)

N-Nitrosomethylethylamine (Ethanamine, N-methyl-N-nitroso-)

N-Nitroso-N-methylurea (Carbamide, N-methyl-N-nitroso-)

N-Nitroso-N-methylurethane (Carbamic acid, methylnitroso-, ethyl ester)

N-Nitrosomethylvinylamine (Ethenamine, N-methyl-N-nitroso-)

N-Nitrosomorpholine (Morpholine, N-nitroso-)

N-Nitrosonornicotine (Nornicotine, N-nitroso-)

N-Nitrosopiperidine (Pyridine, hexahydro-, N-nitroso-)

Nitrosopyrrolidine (Pyrrole, tetrahydro-, N-nitroso-)

N-Nitrososarcosine (Sarcosine, N-nitroso-)

5-Nitro-o-toluidine (Benzenamine, 2-methyl-5-nitro-)

Octamethylpyrophosphoramide (Diphosphoramide, octamethyl-)

Osmium tetroxide (Osmium (VIII) oxide)

7-Oxabicyclo(2.2.1)heptane-2,3-dicarboxylic acid (Endothal)

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

Parathion (Phosphorothioic acid, O,O-diethyl O-(p-nitrophenyl) ester

Pentachlorobenzene (Benzene, pentachloro-)

Pentachloroethane (Ethane, pentachloro-)

Pentachloronitrobenzene (PCNB) (Benzene, pentachloronitro-)

Pentachlorophenol (Phenol, pentachloro-)

Phenacetin (Acetamide, N-(4-ethoxyphenyl)-)

Phenol (Benzene, hydroxy-)

Phenylenediamine (Benzenediamine)

Phenylmercury acetate (Mercury, acetatophenyl-)

N-Phenylthiourea (Thiourea, phenyl-)

Phosgene (Carbonyl chloride)

Phosphine (Hydrogen phosphide)

Phosphorodithioic acid, O,O-diethyl S-((ethylthio)methyl)ester (Phorate)

Phosphorothioic acid, O,O-dimethyl O-(p-((dimethylamino)sulfonyl) phenyl)ester (Famphur)

Phthalic acid esters, N.O.S.* (Benzene, 1,2-dicarboxylic acid, esters, N.O.S.*)

Phthalic anhydride (1,2-Benzenedicarboxylic acid anhydride)

2-Picoline (Pyridine, 2-methyl-)

Polychlorinated biphenyl, N.O.S.*

Potassium cyanide

Potassium silver cyanide (Argentate(1-),dicyano-,potassium)

Pronamide (3,5-Dichloro-N-(1,1-dimethyl-2-propynyl)benzamide)

1,3-Propane sultone (1,2-Oxathiolane, 2,2-dioxide)

n-Propylamine (1-Propanamine)

Propylthiouracil (Undecamethylenediamine, N,N'-bis(2-chlorobenzyl)-, dihydrochloride)

2-Propyn-1-ol (Propargyl alcohol)

Pyridine

Reserpine (Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-((3, 4,5-trimethoxybenzoyl)oxy)-, methyl ester)

Resorcinol (1,3-Benzenediol)

Saccharin and salts (1,2-Benzoisothiazolin-3-one, 1,1-dioxide, and salts)

Safrole (Benzene, 1,2-methylenedioxy-4-allyl-)

Selenious acid (Selenium dioxide)

Selenium and compounds, N.O.S.*

Selenium sulfide (Sulfur selenide)

Selenourea (Carbamimidoselenoic acid)

Silver and compounds, N.O.S.*

Silver cyanide

Sodium cyanide

Streptozotocin (D-Glucopyranose, 2-deoxy-2-(3-methyl-3-nitroso-ureido)-)

Strontium sulfide

Strychnine and salts (Strychnidin-10-one, and salts)

1,2,4,5-Tetrachlorobenzene (Benzene, 1,2,4,5-tetrachloro-)

2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) (Dibenzo-p-dioxin, 2,3,7,8-tetrachloro-)

Tetrachloroethane, N.O.S.* (Ethane, tetrachloro-, N.O.S.*)

1,1,1,2-Tetrachlorethane (Ethane, 1,1,1,2-tetrachloro-)

1,1,2,2-Tetrachlorethane (Ethane, 1,1,2,2-tetrachloro-)

Tetrachloroethylene (Ethene, 1,1,2,2-tetrachloro-)

2,3,4,6-Tetrachlorophenol (Phenol, 2,3,4,6-tetrachloro-)

Tetraethyldithiopyrophosphate (Dithiopyrophosphoric acid, tetraethyl-ester)

Tetraethyl lead (Plumbane, tetraethyl-)

Tetraethylpyrophosphate (Pyrophosphoric acid, tetraethyl ester)

Tetranitromethane (Methane, tetranitro-)

Thallium and compounds, N.O.S.*

Thallic oxide (Thallium (III) oxide)

Thallium (I) acetate (Acetic acid, thallium (I) salt)

Thallium (I) carbonate (Carbonic acid, dithallium (I) salt)

Thallium (I) chloride

Thallium (I) nitrate (Nitric acid, thallium (I) salt)

Thallium selenite

Thallium (I) sulfate (Sulfuric acid, thallium (I) salt)

Thioacetamide (Ethanethioamide)

Thiosemicarbazide (Hydrazinecarbothioamide)

Thiourea (Carbamide, thio-)

Thiuram (Bis(dimethylthiocarbamoyl)disulfide)

Toluene (Benzene, methyl-)

Toluenediamine (Diaminotoluene)

o-Toluidine hydrochloride (Benzenamine, 2-methyl-,hydrochloride)

Tolylene diisocyanate (Benzene, 1,3-diisocyanatomethyl-)

Toxaphene (Camphene, octachloro-)

Tribromomethane (Bromoform)

1,2,4-Trichlorobenzene (Benzene, 1,2,4-trichloro-)

1,1,1-Trichloroethane (Methyl chloroform)

1,1,2-Trichloroethane (Ethane, 1,1,2-trichloro-)

Trichloroethene (Trichloroethylene)

Trichloromethanethiol (Methanethiol, trichloro-)

Trichloromonofluoromethane (Methane, trichlorofluoro-)

2,4,5-Trichlorophenol (Phenol, 2,4,5-trichloro-)

2,4,6-Trichlorophenol (Phenol, 2,4,6-trichloro-)

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

2,4,5-Trichlorophenoxypropionic acid (2,4,5-TP) (Silvex) (Propionoic acid, 2-(2,4,5-trichlorophenoxy)-)

Trichloropropane, N.O.S.* (Propane, trichloro-, N.O.S.*)

1,2,3-Trichloropropane (Propane, 1,2,3-trichloro-)

O,O,O-Triethyl phosphorothioate (Phosphorothioic acid, O,O,O-triethyl ester)

sym-Trinitrobenzene (Benzene, 1,3,5-trinitro-)

Tris(1-azridinyl) phosphine sulfide (Phosphine sulfide, tris (1-aziridinyl-)

Tris(2,3-dibromopropyl) phosphate (1-Propanol, 2,3-dibromo-, phosphate)

Trypan blue (2,7-Naphthalenedisulfonic acid, 3,3'-((3,3'-dimethyl(1,1'-biphenyl)-4,4'-diyl)bis(azo)bis(5-amino-4-hydroxy-, tetrasodium salt)

Uracil mustard (Uracil 5-(bis(2-chloroethyl)amino)-)

Vanadic acid, ammonium salt (ammonium vanadate)

Vanadium pentoxide (Vanadium (V) oxide)

Vinyl chloride (Ethene, chloro-)

Zinc cyanide

Zinc phosphide

Additions to Table VII

Nickel cyanide (Nickel (II) cyanide)

Heptachlor epoxide (alpha, beta, and gamma isomers) (4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-2,3-epoxy-3a,4,7,7-tetra-

hydro-, alpha, beta, and gamma isomers)

*N.O.S. - Not otherwise specified signifies those members of the general class "not otherwise specified" by name in this listing.

Section 27. Closure

At closure, the owner or operator of a hazardous waste thermal treatment facility must remove all hazardous waste and hazardous waste residues (Including, but not limited to ash, scrubber water and scrubber sludges) from the thermal treatment process.

Section 28. Existing Treatment, Disposal, or Storage Facilities

28.01. Within six (6) months after the effective date of this regulation, all persons conducting thermal treatment of hazardous waste, or any other treatment or disposal facility which discharges, or may discharge, hazardous waste to the atmosphere, shall submit to the Director, on forms provided by the Director, the following information:

(a) Name, mailing address, and location of the facility; and

(b) The activities conducted under this regulation by the applicant which require him to obtain an operating permit; and

(c) Up to four SIC codes which best reflect the principal products or services provided by the facility; and

(d) The latitude and longitude of the facility; and

(e) UTM Coordinates of the facility; and

(f) The name, address, and telephone number of the owner of the facility; and

(g) A scale drawing of the facility showing the location of all past, present, and future treatment and disposal areas; and

(h) Photographs of the facility clearly delineating all existing structures; existing treatment, storage and disposal areas; and site of future treatment and disposal areas; and

(i) The operator's name, address, telephone number, ownership status, and status of Federal, State, private, public or other entity; and

(j) A topographic map (or other map if a topographic map is unavailable) extending one mile beyond the property boundaries of the source, depicting the facility and each of its hazardous waste treatment or disposal facilities; and

(k) A brief description of the nature of the business; and

(l) A description of the treatment or disposal processes and their design capacity; and

(m) A specification of the hazardous wastes to be treated or disposed at the facility, an estimate of the quantity of such wastes to be treated or disposed annually; and a general description

of the processes to be used for such wastes; and

(n) Chemical and physical analyses of the hazardous wastes to be handled at the facility. At a minimum, these analyses shall contain all the information which shall be known to treat or dispose of the waste; and

(o) A copy of the required waste analysis plan; and

(p) For facilities which incinerate hazardous waste, data listed in Subsection 17.02.

(q) For facilities which thermally treat hazardous waste in fuel burning units, sufficient data to demonstrate that the performance standards and operating requirements of this regulation can be met.

28.02. The owner or operator of a thermal treatment facility, or any other treatment or disposal facility which discharges, or may discharge, hazardous waste to the atmosphere, in existence prior to the effective date of this regulation which does not meet the requirements of this regulation shall develop and submit to the Commission, within one hundred eighty (180) days, an acceptable compliance program for the attaining and maintaining of the requirements of this regulation. The compliance program shall be embodied in a consent

provide substantiation, the information will be placed in a public file.

29.03. The following information shall not be considered confidential:

(a) The name and address of the permittee; and

(b) Emission data; and

(c) Monitoring reports and associated data.

Section 30. Effective Date