Hazardous Waste Generator Handbook

May 1, 2011

A Guide to Complying with
Kansas Hazardous Waste
Generator Regulations

Kansas Department of Health and Environment

Division of Environment
Bureau of Waste Management
1000 SW Jackson, Suite 320
Topeka, KS 66612-1366
(785) 296-1600
www.kdheks.gov/waste/

Kansas
Department of Health
and Environment

DISCLAIMER:

This handbook supersedes all previous editions of this publication.

The information contained in this handbook is an overview of the hazardous waste management program in Kansas. The state and federal regulations should be consulted for more detailed information.

Hazardous Waste Generator Handbook

Table of Contents

I. Background 4

II. Purpose 4

III. Who Generates Hazardous Waste and Who Does Not? 5

IV. What is a Hazardous Waste? 5

Insert. Hazardous Waste Determinations and Documentation, HW-2010-G1 6

Insert. Characteristic and Listed Hazardous Wastes, HW-2011-G2 9

V. What Quantities of Hazardous Waste are Regulated? 13

VI. Generator Classifications 14

VII. Summary of Generator Requirements 14

A. Conditionally Exempt Small Quantity Generator (CESQG) Requirements 14

B. Kansas Small Quantity Generator (KSQG) Requirements 17

C. Small Quantity Generator (SQG) Requirements 21

D. Large Quantity Generator (LQG) Requirements 25

VIII. Land Disposal Restrictions (40 CFR 268) and Hazardous Waste Manifesting (40 CFR 262) 29

IX. Choosing a Hazardous Waste Management Facility and/or Hazardous Waste Transporter/Contractor 30

X. How to Avoid Compliance Problems and Minimize Liability 31

XI. Resources Available to Assist in Properly Managing Hazardous Waste 32

Attachment 1 – Toxicity Characteristic Constituents – Regulatory Limits and Waste Codes 34

Attachment 2 – Hazardous Wastes From Non-Specific Sources (F-List) 36

Attachment 3 – Hazardous Wastes from Specific Sources (K-List) 40

Attachment 4 – Discarded Acutely Toxic Commercial Chemical Products, Off-Specification Species, Container Residues and Spills Thereof (P-List) 47

Attachment 5 - Discarded Commercial Chemical Products, Off-Specification Species, Container Residues and Spills Thereof (U-List) 60

I. Background

The first effort to regulate hazardous waste management on a national level occurred in 1976 with the passage by Congress of the Resource Conservation and Recovery Act (RCRA). The primary goal of the Act was to encourage the conservation of natural resources through resource recovery. RCRA also provided the statutory basis for the federal hazardous waste regulations. The regulations that have evolved into the current regulatory program were first issued in May of 1980. A key section of the Act provided for states to operate the hazardous waste management program in lieu of the U.S. Environmental Protection Agency (EPA).

The State of Kansas first passed legislation regarding hazardous waste management in 1977. The Kansas Department of Health and Environment (KDHE) obtained authorization to administer the hazardous waste management program from EPA in October of 1985. As a result, hazardous waste generators deal primarily with KDHE. Since 1977, Kansas hazardous waste laws have been amended, with significant updates being made in 2011. With a few exceptions, KDHE has adopted the federal regulations by reference. In areas where the Kansas regulations have more stringent requirements than the federal program, the generator must comply with the state requirements.

II. Purpose

The proper management of hazardous wastes can be a complex and challenging task. This publication was prepared to be used as a guide to help you determine whether your facility is subject to state and federal hazardous waste management statutes and regulations. By reviewing waste generation and disposal practices, and using this guide, a person should be able to do the following:

- Determine whether your facility generates hazardous wastes;
- Determine how those wastes are regulated under the Kansas hazardous waste management program;
- Learn what you must do to comply with the Kansas hazardous waste management statutes and regulations;
- Learn what alternative hazardous waste management options are available to a hazardous waste generator; and
- Learn what resources are available to assist you in complying with the statutes and regulations.

The hazardous waste statutes place the primary responsibility for ensuring that hazardous wastes are properly managed on the person/facility who generates those wastes. The generator must identify all hazardous wastes and be certain that they are transported and disposed in accordance with the law. While the generator can contract with hazardous waste contractors or consultants to perform these activities on his or her behalf, the ultimate responsibility for complying with the laws remains with the generator of the waste. For this reason, it is important for all generators of hazardous or potentially hazardous wastes to become familiar with the statutes and regulations that apply to them.

The Kansas statutes and regulations generally mirror federal laws and regulations but differences do exist between the two programs. To comply with all the state regulations fully, you must use the Kansas hazardous waste regulations with the federal regulations referenced in the various state regulations.

Complying only with the federal regulations found in Title 40 of the Code of Federal Regulations (40 CFR) will not allow you to operate in full compliance with the Kansas regulations.

III. Who Generates Hazardous Waste and Who Does Not?

Any business can be a hazardous waste generator. A few examples of hazardous waste generators are businesses that use or handle large amounts of chemicals, manufacture items, perform maintenance activities, or conduct printing services.

Wastes from households and most farm activities are exempt from the definition of hazardous waste. Therefore households and most farmers are not generators of hazardous waste. However, some wastes generated by households and farmers are very hazardous and should be managed appropriately. Most Kansas citizens have access to a household hazardous waste (HHW) collection facility. These HHW facilities are permitted by KDHE to collect wastes from households that may be hazardous and to keep HHW out of our landfills and out of our groundwater and surface water. KDHE encourages all citizens to utilize HHW facilities whenever possible.

IV. What is a Hazardous Waste?

Hazardous waste is a special category or subset of all wastes that businesses and industries generate. For a material to be a hazardous waste, the material must first be classified as a solid waste. Generally speaking, a material is a waste when it can no longer be used for its intended purpose and will be disposed, reclaimed, or recycled. Hazardous wastes are wastes known to be harmful or potentially harmful to human health or the environment. The process used to determine if a waste is hazardous is referred to as the hazardous waste determination. The following sections will detail the process of making an adequate hazardous waste determination, and also explain the different ways a waste can be hazardous (characteristic and listed). These sections are in the form of Technical Guidance Documents. For a complete list of Technical Guidance Documents, see the KDHE BWM website (address found on the cover of this document).

Kansas Department of Health and Environment
Bureau of Waste Management
1000 SW Jackson, Suite 320, Topeka, Kansas 66612-1366

Hazardous Waste Determinations and Documentation

Technical Guidance Document HW-2011-G1

Businesses, government agencies, institutions, and other concerns generate many types of waste and are required to determine if any of their waste is hazardous. Only household waste is exempt from this requirement. This technical guidance document (TGD) explains the steps involved in making a waste determination and the associated documentation requirements. This guidance is not designed for every waste stream and should not be used without consulting the regulations. The Federal Regulations referred to in this document have been adopted by Kansas in KAR 28-31-261.

Making Waste Determinations

Hazardous waste determinations can be complicated, and must be done for every waste stream generated at a facility. Generally, the only waste stream that is not required to have a documented waste determination is office trash. Breaking the waste determination into steps can make it easier to complete the process.

Step 1

Make a list of all waste streams being generated at the facility. List what process generates each waste stream, and document how many pounds of each waste stream are generated each month (don't average over months).

Step 2

Check to see if each waste meets the definition of "solid waste" as found in the Code of Federal Regulations, 40 CFR 261.2. Waste is considered solid waste if it:

- Is a solid or a liquid (or in some cases a gas) that is discarded, abandoned, recycled, or considered inherently waste-like; and
- Is not otherwise exempt from the definition of solid waste under 40 CFR 261.4(a).

One common way that materials become exempt from the definition of solid waste is when they are discharged to a sewer or drain that is regulated under the Clean Water Act, for example an NPDES discharge point, a pre-treatment system, or a Publicly Owned Treatment Works (POTW).

Step 3

For each waste that meets the definition of "solid waste", check to see if the waste meets the definition of "hazardous waste" as found in 40 CFR 261.3. Use knowledge of how the waste was generated (process knowledge) and/or have the waste analyzed at a Kansas Department of Health and Environment (KDHE) certified laboratory using EPA-approved test methods. Some wastes may need to be evaluated using both process knowledge and analysis, while others can be evaluated using one or the other alone.

Hazardous waste is divided into two broad categories: listed waste and characteristic waste. A hazardous waste can be both listed and characteristic. For more details on listed and characteristic hazardous wastes and determining waste codes, please refer to TGD HW-2011-G2, Characteristic and Listed Hazardous Wastes.

Step 4

Prepare a document stating whether or not the waste is hazardous. If it is hazardous, list the applicable waste codes (D001, F003, U183, etc.). This is the very important final step in the hazardous waste determination process.

Documenting Waste Determinations

Maintain documentation of Steps 1 through 4. This documentation must be kept for 3 years from the last date the waste was shipped off-site.

Adequate documentation will include a statement about whether or not the waste is hazardous as well as copies of all documents used in Steps 1 through 3. Documentation is required for all wastes, both non-hazardous and hazardous. Some examples of documentation that may be included are:

- Material Safety Data Sheets (MSDSs);
- Process flow diagrams;
- Analytical results from a KDHE-certified laboratory; and
- Chemical reaction diagrams.

None of these documents is acceptable as an adequate waste determination by itself, as none of them will state conclusively whether or not the waste is hazardous or non-hazardous.

Another document that is inadequate by itself is a Waste Profile from a contractor. These forms are often filled out by hazardous waste transporters and contractors through interviews with generators and frequently are not supported by any real investigation into the process generating the waste. In addition, they may be supported using analytical tests done in laboratories that are not certified by KDHE. Always ask the contractor to use a KDHE-certified laboratory for all analytical testing to ensure that a repeat analysis is not required. Also, if a Waste Profile is used as part of the hazardous waste determination, all supporting documentation, including those documents previously listed, must be attached.

Adequately documenting waste determinations can be difficult. To assist with this process, KDHE has created the attached example document that may be used. This specific form is not required and may be modified to meet the specific needs of individual facilities.

Summary

Conducting an adequate determination for each waste stream and properly documenting that determination will help facilities stay in compliance and avoid costly mistakes. Adequate determinations are the foundation of any good hazardous waste management program and will help reduce management and disposal costs.

Certified Laboratories

A list of KDHE-certified laboratories can be found at:
http://www.kdheks.gov/envlab/disclaimer.html

For additional information regarding proper management of solid or hazardous waste in Kansas, you may contact the Bureau of Waste Management at (785) 296-1600 or the address at the beginning of this document, or visit the Bureau's website at http://www.kdheks.gov/waste/.

Waste Determination Documentation Form

Facility Name: _____

Waste Name: _____

Description of Process: _____

Pounds of waste generated each month: _____

Does this waste meet the definition of a solid waste? Yes No

Is this waste exempt from the definition of solid waste or hazardous waste? Yes No

Was laboratory analysis used to make this determination? Yes No

If yes, record the name and KDHE certificate number for the laboratory: _____
If yes, **attach** a copy of the analytical results to this sheet.

Was knowledge of the process used to make this determination? Yes No

If yes, list the name and date of each document (MSDS, process flow diagrams, etc.) reviewed and/or **attach** them to this sheet:

_____

_____

_____

_____

_____

Is this waste non-hazardous? Yes No

Is this waste a listed hazardous waste? Yes No
If yes, list waste codes: _____

Is this waste a characteristic hazardous waste? Yes No
If yes, list waste codes: _____

List the name and title of the person making this determination: _____

Date of this determination: _____

Kansas Department of Health and Environment
Bureau of Waste Management
1000 SW Jackson, Suite 320, Topeka, Kansas 66612-1366

Characteristic and Listed Hazardous Wastes

Technical Guidance Document HW-2011-G2

Hazardous waste generators need to know which waste codes apply to their waste in order to properly manage that waste. This technical guidance document (TGD) describes how to determine waste codes for different types of waste. This guidance is not designed for every waste stream and should not be used without consulting the regulations. The Federal Regulations referred to in this document are adopted by Kansas in KAR 28-31-261.

The Environmental Protection Agency (EPA) has established two categories of hazardous wastes: characteristic and listed. A waste can be both a characteristic hazardous waste and a listed hazardous waste. Each characteristic and each listing has a waste code associated with it. These waste codes should be used by the generator on hazardous waste manifests, land disposal restriction (LDR) forms, and on any waste determination documents, such as those provided with TGD HW-2011-G1, Hazardous Waste Determinations and Documentation.

Characteristic Hazardous Waste

A waste can exhibit the characteristics of:

- Ignitability (waste code D001);
- Corrosivity (waste code D002);
- Reactivity (waste code D003); and/or
- Toxicity (waste codes D004 to D043).

Knowledge of the process that produced the waste and/or the results of analytical testing can be used to determine if the waste is a characteristic hazardous waste. Analytical testing should be done by a laboratory certified by the Kansas Department of Health and Environment (KDHE). If there is any doubt about whether or not a waste exhibits a hazardous characteristic, it is the generator's responsibility to have the waste analyzed at least once, using appropriate tests to make an adequate waste determination. The analytical testing will only need to be repeated if the generator changes something in their process, including the source of raw materials.

The first three characteristics are fairly easy to determine:

- Ignitable hazardous waste has a flashpoint of less than 140 degrees Fahrenheit.
- Corrosive hazardous waste has a pH of 0 to 2 or 12.5 to 14.
- Reactive hazardous waste is waste that is normally unstable, reacts violently with water, generates toxic gases when exposed to water or corrosive materials, or is capable of detonation or explosion when exposed to heat or flame. There is no analytical test currently approved by EPA to determine if a waste is reactive.

The fourth characteristic, toxicity, is more difficult to determine. EPA has set regulatory limits for 40 toxic compounds. To determine if a waste meets or exceeds these regulatory limits, a representative sample of the waste should be collected and submitted to a KDHE-certified laboratory. The laboratory should prepare the sample for analysis using the Toxicity Characteristic Leaching Procedure (TCLP) extraction method and analyze the sample, using EPA-approved test methods, for the contaminants listed in 40 CFR 261.24.

A generator can use knowledge of the process that generated the waste to reduce analytical costs. For example, if a generator knows that the process does not use pesticides, herbicides, semi-volatile organic compounds (SVOCs), or mercury, then there is no need to test for those contaminants. When the generator submits the representative sample of their waste to a KDHE-

certified laboratory, only two tests would be requested: TCLP Volatile Organic Compounds (VOCs) and TCLP metals minus mercury. This will be significantly less expensive than having the laboratory analyze for the entire list of TCLP compounds. The generator should maintain documentation, such as Material Safety Data Sheets (MSDS), showing that the raw materials used in the process do not contain the contaminants for which tests were not run.

The analytical results received from the laboratory should be compared to the regulatory limits found in 40 CFR 261.24. If the concentration of any constituent is equal to or greater than the regulatory limit, then the waste is a hazardous waste. The waste code of each constituent that meets or exceeds the regulatory limit should be used for the waste.

Listed Hazardous Waste

Wastes that are included in EPA's "F", "K", "P", or "U" lists are hazardous wastes. Each list has a different focus and can be found in 40 CFR 261.31 through 261.33.

F-Listed Wastes

F-listed wastes are hazardous waste from non-specific sources. Most of the F-list is fairly easy to understand. Some examples follow.

F019 is the waste code for wastewater treatment sludges from the chemical conversion coating of aluminum. If a generator uses a chemical conversion coating process for aluminum, and if the wastewater is treated on-site, then the sludge from that wastewater treatment is a listed hazardous waste with the F019 waste code.

F006 is the waste code for wastewater treatment sludges from electroplating operations **except** from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum. Therefore, if a generator has a chrome-plating operation and the wastewater is treated on-site, the sludge from the treatment of that wastewater is a listed hazardous waste with the waste code F006.

The most common F-listed waste codes used in Kansas are F001, F002, F003, F004, and F005. These are the waste codes for specific spent solvents, and they appear frequently because many wastes generated from painting operations and from parts washers contain solvents. Each of these spent solvent listings is defined by how a specific solvent is used and the percentage of a specific constituent in the solvent before it is used. Please be aware that more than one of these F-listings may apply to a single waste stream.

<u>F001, F002, F004, and F005 Waste Codes</u>

When a solvent mixture contains a total of 10% or more of one spent solvent, or a combination of spent solvents, from the F001, F002, F004, and F005 listings, then all appropriate F-listings will apply to the mixture. In order to clarify how to apply these listings, the following two scenarios are presented.

Scenario 1 – A generator has a parts washer with a solvent that has become too dirty to use anymore. The generator must now make a hazardous waste determination on the spent solvent so that it can be properly disposed of. The generator looks at the MSDS for the solvent and it lists: trichloroethylene (65%) and methylene chloride (35%). These solvents are found both on the F001 and F002 lists. The parts washer is not part of a degreasing (large-scale cleaning) operation and therefore the F001 listing does not apply. The F002 listing does apply to this waste, since the combination of trichloroethylene and methylene chloride makes up 10% or more of the mixture (in this case 100%). Therefore, this mixture is a listed hazardous waste carrying the F002 waste code.

Scenario 2 – A generator uses methyl ethyl ketone (MEK) to thin paint. The waste paint is poured into a 55-gallon drum. The generator also cleans the paint gun and lines with MEK,

but this waste is put in a 15-gallon drum that is kept segregated from the waste paint. The generator looks at the F005 listing and sees that MEK that has been used as a solvent is a listed hazardous waste carrying the F005 waste code. Therefore the 15-gallon drum of waste solvent (MEK) is a listed hazardous waste (F005). The 55-gallon drum of waste paint is not a **listed** hazardous waste because the MEK was used as an ingredient in the paint; it was not used as a solvent. However, the waste paint may be a hazardous waste if it exhibits the characteristic of ignitability (D001) and/or MEK toxicity (D035). An analysis of a representative sample would be necessary to determine if the waste paint is **characteristic** for MEK toxicity.

F003 Waste Code

The definition of an F003-listed waste is more complicated. There are two ways that a solvent mixture can meet the F003 listing:

- The mixture contains only F003 constituents that are pure or technical grade; or
- The mixture contains one or more F003 constituents and a total of 10% or more of the other listed solvents (F001, F002, F004, and/or F005) before use. Below are five scenarios that demonstrate how to apply the F003 listing.

Scenario 1 – A generator uses a solvent for cleaning. The MSDS shows acetone at 99.9% and water at 0.1%. This would be considered a technical grade for acetone. The generator looks at the F003 list and sees that acetone is on the list. Therefore, the waste acetone would be a listed hazardous waste carrying the waste code F003 (because the waste solvent is composed of essentially 100 % F003-listed solvents).

In most painting and parts washer applications, F003-listied solvents are not used in pure or technical grade form. These solvents are usually mixed/blended with other solvents. The next three examples will show how to apply the F003 listing for a solvent mixture.

Scenario 2 – A generator uses a solvent for cleaning. The MSDS for the solvent shows: acetone (65%), toluene (6%), and MEK (5%). Determining the applicable waste codes can be broken down into the following steps:

1. The generator looks at the F005 list and sees that toluene and MEK are both on the list. The combined percentage of the toluene and MEK is 11%, which meets the listing definition of a total of 10% or more. Therefore, the waste solvent is a listed hazardous waste with the waste code F005.
2. The generator also looks at the F003 list and sees that acetone is on the list. The generator sees that by definition, the listing applies if the waste (spent) solvent contains one or more of the solvents on the F003 list (in this case, acetone) and a total of 10% or more of one or more of the solvents listed in the F001, F002, F004, and F005 lists (in this case, 11% of F005-listed solvents). Therefore, the waste solvent meets the definition of a F003-listed waste.

The waste solvent in this scenario would carry both the F003 and F005 waste codes. The important thing to remember is that the percentage of the F003-listed solvent does not matter as long as there is 10% or more total of the other F-listed solvents (F001, F002, F004, and/or F005).

Scenario 3 – The generator from Scenario 2 recycles his solvent in a distillation unit on-site. Still bottoms (i.e. pancakes, still cakes, pugs, solids) are generated from this process. These solids will also be a listed hazardous waste carrying the F003 and F005 waste codes because the definition for both F003 and F005 states that they include "still bottoms from the recovery of these spent solvents and spent solvent mixtures."

Scenario 4 – A generator uses a solvent for cleaning. The MSDS for the solvent shows: acetone (25%) and water (75%). The generator looks at the F003 list and sees that acetone is on it. However, based on the MSDS, the solvent is not pure or technical grade acetone (because it does not contain essentially 100% F003-listed solvent). Also, the solvent does not contain any

other listed (F001, F002, F004, or F005) constituents. Therefore, the waste solvent does not meet the definition of an F-listed spent solvent, and does not carry any of those listed waste codes.

Scenario 5 – A generator uses a solvent for cleaning paint brushes. The MSDS for the solvent shows: toluene (65%), methylene chloride (5%), xylene (5%), and water (25%). Determining the applicable waste codes can be broken down into the following steps:

1. The generator finds toluene in the F005 list.
2. The generator finds methylene chloride in both the F001 and the F002 lists. The F001 listing applies to the listed solvents used in degreasing (large-scale cleaning) operations. Since the generator is not using the solvent for degreasing, F002 is the applicable code.
3. The generator combines the percentages of toluene (65%) and methylene chloride (5%), for a total percentage of 70%. By both the F002 and F005 definitions, the waste solvent would be listed for both waste codes because the solvent contains 10% or more of a solvent, or a combination of solvents, listed in F001, **F002,** F004, and **F005**.
4. The generator finds xylene in the F003 list. The generator sees that the listing applies if the waste (spent) solvent contains one or more of the solvents on the F003 list (in this case, xylene) and a total of 10% or more of one or more of the solvents listed in the F001, F002, F004, and F005 lists (in this case 70% of F002- and F005-listed solvents). Therefore, the waste solvent meets the definition of an F003-listed waste.

The waste solvent in this scenario would carry F002, F003, and F005 waste codes.

K-Listed Wastes

K-listed wastes are hazardous wastes from specific sources. A generator must utilize the specific process listed in the definition in order to have a K-listed waste. An example of K-listed hazardous waste is distillation bottoms from the production of acetaldehyde from ethylene, which carries a waste code of K009.

P- and U-Listed Wastes

P and U-listed wastes are discarded commercial chemical products, off-specification species, container residues, and spill clean-up materials from any of these that must be disposed for some reason. The difference between the "P" and "U" lists lies in the toxicity of the product. The acutely toxic products are on the P-list and less toxic products are on the U-list. The product will only become a waste at the point the generator no longer has a use for it and determines that it must be discarded (or if it is spilled and cleaned up).

P- and U-listed hazardous wastes are unused (not spent) materials. If the discarded material is a solution, the generator should look at the active ingredient of the solution. Some common examples of P- and U-listed wastes are:

- Discarded nicotine patches (P075)
- Warfin (P001)
- Acetone (U002)
- Benzene (U019)
- Toluene (U220)

Remember that a material must be **unused** to meet the definition of P- or U-listed waste.

P-listed wastes are less common, but due to their acute toxicity they are regulated at a much smaller quantity than other hazardous wastes. A facility that generates or accumulates on-site as little as 2.2 pounds of P-listed hazardous waste is regulated as a Large Quantity Generator.

For additional information regarding proper management of solid or hazardous waste in Kansas, you may contact the Bureau of Waste Management at (785) 296-1600 or the address at the top of this document, or visit the Bureau's website at http://www.kdheks.gov/waste/.

Other Common Wastes

Lead-Acid Batteries (40 CFR 266, Subpart G or Universal Waste 40 CFR 273)

Used lead-acid batteries are regulated as hazardous wastes only if they are NOT recycled (40 CFR 266, subpart G). Batteries that are recycled do not need to be counted in determining the quantity of hazardous waste generated per month, nor do they require a hazardous waste manifest when shipped off your premises. This exemption does not apply if you recycle batteries on your premises. Lead-acid batteries may also be managed under the Universal Waste rule in 40 CFR 273 and in K.A.R. 28-31-273.

Asbestos (40 CFR 763)

Asbestos is not a hazardous waste and is not subject to the hazardous waste regulations. Asbestos-containing material (ACM) regulated under K.A.R. 28-50-14 (Asbestos waste disposal) may be disposed of as a special waste at a permitted municipal solid waste landfill (MSWLF) if the generator complies with the requirements of K.A.R. 28-29-109, the special waste regulation. For more information about asbestos disposal you can contact the Special Waste Coordinator at (785) 296-1600.

Used Oil (40 CFR 279 and K.A.R. 28-31-279)

Used oil that is recycled for energy or material recovery is not subject to the hazardous waste regulations. Used oil that is recycled by burning in a space heater or by a used oil collector does not need to be counted in determining the quantity of hazardous waste generated per month, nor does it require a hazardous waste manifest when shipped off your premises. Used oil can be burned in oil-fired space heaters provided that:

- The heater burns only used oil that you generate or used oil received from household do-it-yourselfers, not businesses, who generate used oil as household waste;
- The heater is designed to have a maximum capacity of not more than 0.5 million (500,000) Btus per hour; and
- The combustion gases from the heater are vented to the outside air.

If you burn only your own used oil in a space heater, you do not need to notify KDHE. If you burn used oil in an industrial boiler or furnace, or send your oil to someone who is burning it, you are required to notify KDHE on the Notification of Regulated Waste Activity Form available at the KDHE BWM website (address found on the cover of this document).

Used oil should never be used on the ground for any purpose including weed control.

Polychlorinated Biphenyls (PCBs) (40 CFR 761)

PCBs are not a hazardous waste and are not subject to the hazardous waste regulations. The use, storage and disposal of PCBs is regulated under the federal Toxic Substances Control Act (TSCA). Additional information on the storage, transportation, and disposal of PCBs may be obtained by contacting the EPA Region VII, PCB Coordinator in Kansas City at (913) 551-7518.

Mixed Waste

Mixed waste is waste that contains a radioactive component and a hazardous component. The radioactive component, which may be high-level, low-level, transuranic, or other, is subject to the Atomic Energy Act (AEA). The radioactive component is regulated by KDHE's radiation program in the Bureau of Environmental Health. The hazardous component may be either a listed hazardous waste or is a characteristic hazardous waste. The hazardous waste component is regulated by the KDHE Bureau of Waste Management (BWM).

Medical Waste

Medical facilities may generate three types of wastes: infectious, radiological, and chemical. Infectious wastes are not regulated as hazardous wastes, but are regulated as solid wastes in Kansas. Guidelines in the form of Technical Guidance Documents (TGDs) for managing such wastes can be obtained from the Solid Waste Permits Section of the Bureau of Waste Management (BWM) at (785) 296-1600 or on the BWM website (address found on the cover of this document). Radiological wastes that are not "mixed wastes" are regulated by KDHE's radiation program in the Bureau of Environmental Health. Medical facilities that generate characteristic or listed hazardous wastes must comply with the same requirements as other generators of hazardous wastes.

Empty Containers (40 CFR 261.7)

Containers or container liners that have held hazardous materials are not regulated as hazardous wastes if the containers or liners are empty. A container is considered empty according to the requirements of 40 CFR 261.7 if:

- All wastes that can be removed have been removed by pouring, pumping, and aspirating, and
- No more than one inch of residue remains in the container or liner, or
- No more than 3.0 percent by weight of the total capacity of the container remains in the container or liner if the container is equal to or less than 110 gallons in size, or
- No more than 0.3 percent by weight of the total capacity of the container remains in the container or liner if the container is greater than 110 gallons in size.

Any containers that contained P-listed materials or wastes must be triple-rinsed using an appropriate solvent before they are considered empty. Unless exempt, rinsates (wash-out wastes) from P-listed containers must be managed as hazardous wastes.

Universal Waste (40 CFR 273 and K.A.R. 28-31-273)

Kansas has adopted no specific state requirements for universal wastes. The most common universal wastes are mercury-containing lamps such as fluorescent, mercury vapor, or high intensity discharge (HID) lamps. The provisions of 40 CFR 273 reduce many of the stringent hazardous waste regulations and allow universal wastes to be more easily collected, transported, and recycled or disposed. For more information about spent mercury-containing lamps and universal wastes, please refer to the KDHE BWM Technical Guidance Documents (TGDs) titled *Spent Fluorescent Lamps Containing Mercury* (HW 95-01) and *Notification Requirements for Large Quantity Handlers of Universal Waste* (HW 01-01), respectively. The TGDs are available on the BWM website (address found on the cover of this document).

V. What Quantities of Hazardous Waste are Regulated?

After a generator determines which wastes are hazardous wastes, the next step is to determine the generation rate and maximum quantities that are accumulated. The generation rate is determined by adding together the total quantity of hazardous waste generated from all sources each calendar month. In determining the generation rate, the actual amount of waste generated each calendar month is used, not an average over a number of months.

In determining the quantity of hazardous waste generated each calendar month, a generator does **not** need to include the following:

- Hazardous waste when it is removed from on-site storage;
- Hazardous waste that is recycled on-site and has already been counted once in that calendar month (See Technical Guidance Document HW-2011-G3, Determining the Hazardous Waste Generation Rate for On-Site Solvent Recycling)
- Lead-acid batteries that are recycled;
- Universal wastes managed according to 40 CFR 273.
- Used oil regulated under 40 CFR 279

VI. Generator Classifications

Kansas regulations define four categories (classes) of hazardous waste generators whose requirements are described in detail below. A generator must determine which category his or her facility is classified in order to determine which regulations must be followed. It should be noted that a generator may change status from one category to another depending upon generation rates and accumulated quantities. The four categories of generators in Kansas are:

Conditionally Exempt Small Quantity Generator (CESQG)
Kansas Small Quantity Generator (KSQG)
Small Quantity Generator (SQG)
Large Quantity Generator (LQG)

VII. Summary of Generator Requirements

This summary is not meant to replace the regulations and is not a complete list of all regulatory requirements for generators. This summary is meant as a brief reference tool to assist generators with compliance.

A. Conditionally Exempt Small Quantity Generator (CESQG) Requirements

To be classified as a CESQG, a generator must meet the following criteria:

- Generate less than 25 kilograms (55 pounds) of hazardous waste in a single calendar month. **[More stringent than EPA]**
- Generate and accumulate less than 1 kilogram (2.2 pounds) of acutely hazardous waste or 100 kilograms (220 pounds) of other wastes listed in 40 CFR 261.5(e) in a single calendar month. **[More stringent than EPA]**

CESQG GENERAL REQUIREMENTS

- Must make a hazardous waste determination using one of the methods described in 40 CFR 262.11.
  - If analytical testing will be conducted, the generator must use a laboratory certified by KDHE. **[More stringent than EPA]**
- Never exceed 1,000 kilograms (2,200 pounds) of hazardous waste on-site. If that amount is exceeded, then the CESQG becomes subject to SQG standard.
- Never generate or accumulate 1 kilogram (2.2 pounds) or more of acutely hazardous waste on-site. If that amount is exceeded, then the CESQG becomes subject to LQG standards. **[More stringent than EPA]**

NON-ACCUMULATING CESQG DISPOSAL OPTIONS

A CESQG that does not accumulate their waste on-site, meaning that they dispose of their waste as it is generated, is considered a non-accumulating CESQG. Non-accumulating CESQGs may send less than 25 kilograms (55 pounds) of hazardous waste to an off-site disposal facility meeting the following requirements:

- A Kansas household hazardous waste (HHW) facility that has a permit issued by the secretary and follows all associated regulations and policies; or
- An off-site treatment, storage or disposal facility (TSDF), if located in the U.S., that is:
  - Permitted by KDHE, another authorized state, or EPA as a hazardous waste TSDF; or
  - Permitted, licensed, or registered by a state to manage municipal solid waste (MSW) in a landfill (subject to 40 CFR Part 258); All Kansas MSW landfills meet this requirement; or
  - A non-MSW landfill that meets all state and federal requirements for accepting CESQG waste. These landfills do not exist in Kansas, but may be available in bordering states. All non-MSW landfills (industrial landfills, construction and demolition landfills, and monofills) in Kansas are prohibited from taking any amount of hazardous waste; or
  - A facility which
    - Beneficially uses or reuses, or legitimately recycles or reclaims the waste; or
    - Treats the waste prior to beneficial use or reuse, or legitimate recycling or reclamation; or
  - For universal waste managed under part 273 of this chapter, a universal waste handler or destination facility subject to the requirements of part 273 of this chapter.

CESQG accumulating <u>less than</u> 25 kilograms (55 pounds) of hazardous waste on-site

STOP HERE.

If a CESQG sends 25 kilograms (55 pounds) or more of hazardous waste off-site at any one time, that waste may only be sent to:

- A Kansas household hazardous waste (HHW) facility that has a permit issued by the secretary and follows all associated regulations and policies; or
- An off-site treatment, storage or disposal facility (TSDF), if located in the U.S., that is:
  - Permitted by KDHE, another authorized state, or EPA as a hazardous waste TSDF; or
  - A facility which
    - Beneficially uses or reuses, or legitimately recycles or reclaims the waste; or
    - Treats the waste prior to beneficial use or reuse, or legitimate recycling or reclamation; or
  - For universal waste managed under part 273 of this chapter, a universal waste handler or destination facility subject to the requirements of part 273 of this chapter.

CESQG RECORD KEEPING REQUIREMENTS

- Maintain all monthly inspection logs for a minimum of 3 years. **[More stringent than EPA]**

CESQG CONTAINER MANAGEMENT REQUIREMENTS

If a CESQG accumulates 25 kilograms (55 pounds) or more of hazardous waste on-site, then they must meet the following container management requirements:

- Conduct monthly inspections of hazardous waste storage areas. **[More stringent than EPA]**
  - At a minimum, the inspections should be documented in a log and should include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions. **[More stringent than EPA]**
- Clearly mark the date upon which each period of accumulation begins and ensure that the date is visible for inspection on each container.
- Clearly label or mark each container with the words “Hazardous Waste”.
- Each container must be in good condition.
- Each container must be compatible with its contents.
- Each container must be kept closed except when adding or removing waste.
- Hazardous wastes must not be stored near other hazardous wastes or materials with which it is incompatible.
- Pre-transport requirements of 40 CFR 262 subpart C except 262.34 (Accumulation time) as follows:
  - All waste transported or offered for transport off-site must be packaged in accordance with the applicable U.S. Department of Transportation (DOT) regulations on packaging under 49 CFR parts 173, 178, and 179.
  - All waste transported or offered for transport off-site must be labeled in accordance with the applicable DOT regulations on hazardous materials under 49 CFR part 172.
  - All waste transported or offered for transport off-site must be marked in accordance with the applicable DOT regulations under 49 CFR part 172.
  - Before transporting hazardous waste or offering hazardous waste for transportation offsite, the generator must placard or offer the initial transporter the appropriate placards according to DOT regulations for hazardous materials under 49 CFR part 172, subpart F.

CESQG TANKS

If a CESQG accumulates 25 kilograms (55 pounds) or more of hazardous waste on-site, then they must meet the following tank management requirements:

- Clearly mark the date upon which each period of accumulation begins and ensure that the date is visible for inspection on each tank.
- Clearly label or mark each tank with the words “Hazardous Waste”.
- If 25 kilograms (55 pounds) or more of hazardous waste is accumulated in one or more tanks then the CESQG must also comply with 40 CFR 265.201.

B. Kansas Small Quantity Generator (KSQG) Requirements

To be classified as a Kansas Small Quantity Generator (KSQG), a generator must meet the following criteria:

- Generate 25 kilograms (55 pounds) or more, but no more than 100 kilograms (220 pounds) of hazardous waste in a single calendar month;
- Generate and accumulate less than 1 kilogram (2.2 pounds) of acutely hazardous waste or 100 kilograms (220 pounds) of other wastes listed in 40 CFR 261.5(e) in a single calendar month.

KSQG GENERAL REQUIREMENTS

- Must make a hazardous waste determination using one of the methods described in 40 CFR 262.11.
  - If analytical testing will be conducted, the generator must use a laboratory certified by KDHE. **[More stringent than EPA]**
- Must obtain an EPA Identification Number from KDHE. **[More stringent than EPA]**
- Must update information on the Notification of Regulated Waste Activity form as it changes (within 60 days of change). **[More stringent than EPA]**
- Never exceed 1,000 kilograms (2,200 pounds) of hazardous waste on-site. If that amount is exceeded, then the KSQG becomes subject to SQG standards.
- Never accumulate 1 kilogram (2.2 pounds) or more of acutely hazardous waste on-site. If that amount is exceeded, then the KSQG becomes subject to LQG standards for that acutely hazardous waste. **[More stringent than EPA]**
- Must use a transporter and TSDF who has an EPA Identification Number, unless transporting their own waste to a reclamation facility or Kansas household hazardous waste (HHW) facility that has a permit issued by the secretary and follows all associated regulations and policies. **[More stringent than EPA]**
- Must use a transporter who has properly registered with KDHE unless transporting their own waste to a reclamation facility or Kansas HHW facility that has a permit issued by the secretary and follows all associated regulations and policies. **[More stringent than EPA]**
- Must use a hazardous waste manifest pursuant to 40 CFR 262 subpart B unless transporting their own waste to a reclamation facility or Kansas HHW facility that has a permit issued by the secretary and follows all associated regulations and policies. **[More stringent than EPA]**
- Generators exporting or importing hazardous waste must follow the requirements of 40 CFR 262 Subparts E and F.
- Meet all of the Land Disposal Restriction requirements as referenced in 40 CFR 268.7(a)(5). **[More stringent than EPA]**
- Can use a tolling agreement if the requirements of 40 CFR 262.20(e) are met.

KSQG RECORDKEEPING, REPORTING, AND FEE REQUIREMENTS

- Maintain a signed copy of each hazardous waste manifests on-site for a minimum of three (3) years.
- Maintain records of any test results, waste analyses, or other waste determinations made in accordance with 40 CFR 262.11 for a minimum of three years from the date that the waste was last treated and/or disposed.
- Follow the exception reporting requirements of 40 CFR 262.42(b) if a manifest is not received from the designated facility (TSDF) within 60 days of the date the waste was accepted by the first transporter. **[More stringent than EPA]**
- Prepare and submit a report to the secretary by April 1 of each year that indicates your generator status. **[More stringent than EPA]**

- Maintain a copy of the required report due on April 1 for a minimum of three (3) years from the date the report was due. **[More stringent than EPA]**
- Submit the appropriate monitoring fee as required in KAR 28-31-10 with the required report due on April 1. **[More stringent than EPA]**
- Maintain a copy of all inspection logs for a minimum of three (3) years. **[More stringent than EPA]**
- Maintain a copy of all training records for a minimum of three (3) years. **[More stringent than EPA]**

KSQG CONTAINER MANAGEMENT REQUIREMENTS

- Each container must be in good condition.
- Each container must be compatible with its contents.
- Each container must be kept closed except when adding or removing waste.
- Hazardous waste must not be stored near other hazardous wastes or materials with which it is incompatible.
- Conduct monthly inspections of hazardous waste storage areas.
  - At a minimum, the inspections should be documented in a log and should include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions.
- Clearly mark the date upon which each period of accumulation begins and ensure that the date is visible for inspection on each container.
- Clearly label or mark each container with the words “Hazardous Waste”.
- Meet the pre-transport requirements as follows.
  - All waste transported or offered for transport off-site must be packaged in accordance with the applicable U.S. Department of Transportation (DOT) regulations on packaging under 49 CFR parts 173, 178, and 179.
  - All waste transported or offered for transport off-site must be labeled in accordance with the applicable DOT regulations on hazardous materials under 49 CFR part 172.
  - All waste transported or offered for transport off-site must be marked in accordance with the applicable DOT regulations under 49 CFR part 172.
  - Before transporting hazardous waste or offering hazardous waste for transportation offsite, the generator must placard or offer the initial transporter the appropriate placards according to DOT regulations for hazardous materials under 49 CFR part 172, subpart F.

KSQG Satellite Accumulation

- A KSQG may accumulate 55 gallons or less, in no more than one container, of each type of hazardous waste (or one quart or less, in no more than one container, of each type of acutely hazardous waste listed in 40 CFR 261.33(e) at or near any point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without a permit or interim status and without this waste becoming subject to accumulation time limits provided that the following conditions are met: **[More stringent than EPA]**
  - Containers are in good condition;
  - Containers are compatible with the waste they are holding;
  - Containers are kept closed except when adding or removing waste;
  - Containers are clearly marked with the words “Hazardous Waste”; **[More stringent than EPA]**
  - Mark the accumulation start date on the container when the 55-gallon limit is exceeded (or the container otherwise no longer meets the definition of a satellite container); and

- Move the container to storage (or manage it as a storage container at that location) within 3 days of the container no longer meeting the definition of a satellite container.

KSQG Tanks

- Clearly mark the date upon which each period of accumulation begins and ensure that the date is visible for inspection on each tank.
- Clearly label or mark each tank with the words “Hazardous Waste”.
- Treatment or storage of hazardous waste in tanks must comply with 40 CFR 265.17(b).
- Contents of the tank should not cause it to corrode or otherwise fail before the end of its intended life.
- Uncovered tanks must be operated to ensure at least 60 centimeters (2 feet) of freeboard, unless the tank is equipped with a containment structure (e.g., dike or trench), a drainage control system, or a diversion structure (e.g., standby tank) with a capacity that equals or exceeds the volume of the top 60 centimeters (2 feet) of the tank.
- Where hazardous waste is continuously fed into a tank, the tank must be equipped with a means to stop this in-flow.
- Generators who accumulate hazardous waste in tanks must:
  - Conduct daily and/or weekly inspections of the tank and its systems as required in 40 CFR 262.201(c) and (d).
  - Upon closure, remove all hazardous waste from tanks, discharge control equipment, and discharge confinement structures.
  - Follow the special requirements found in 40 CFR 265.201(g) for ignitable or reactive waste.
  - Follow the special requirements found in 40 CFR 265.201(h) for incompatible waste.

KSQG PREPAREDENSS AND PREVENTION

- The facility must be maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.
- The facility must be equipped with the following unless none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:
  - An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;
  - A device such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or state or local emergency response teams;
  - Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and;
  - Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.
- The facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.
- Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee (unless such a device is not required under 40 CFR 265.32).

- Aisle space must be maintained to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency.
- The generator must attempt to make the following arrangements, as appropriate for the type of waste handled at the facility and the potential need for the services of these organizations. If state or local authorities refuse to enter into such an agreement, then the generator must document the refusal in the operating record:
  - Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes;
  - Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;
  - Agreements with state emergency response teams, emergency response contractors, and equipment suppliers; and
  - Agreements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.
- Must have an emergency coordinator on-site or on call (able to be on-site within 30 minutes) at all times. This emergency coordinator must be able to coordinate all emergency response measures specified below.
- The following information must be posted next to at least one telephone:
  - The name and telephone number of the emergency coordinator;
  - Location of fire extinguishers and spill control material, and, if present, fire alarm; and
  - The telephone number of the fire department, unless the facility has a direct alarm.
  - If the generator relies solely on cell phones:
    - The information listed above must be posted on walls so that they can be readily seen by employees;
    - Employees shall be trained on the locations of these postings; and
    - Management personnel shall have these numbers programmed into their cell phones.
- The emergency coordinator must respond to any emergencies that arise and meet the response requirements of 40 CFR 262.34(d)(5)(iv).

KSQG TRAINING

Each KSQG shall ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies.

This training should be: **[More stringent than EPA]**

- Provided within 6 months of hire (or transfer to a new position);
- Be repeated at least annually; and
- Documented by recording all of the following:
  - The name of the employee;
  - Date of the training;
  - A list of the topics covered in the training.

Training records must be maintained for a minimum of 3 years.

C. Small Quantity Generator (SQG) Requirements

To be classified as a SQG, a generator must meet the following criteria:

- Generate more than 100 kilograms (220 pounds) but less than 1,000 kilograms (2,200 pounds) of hazardous waste in a single calendar month; and
- Generate and accumulate less than 1 kilogram (2.2 pounds) of acutely hazardous waste in a calendar month.

SQG GENERAL REQUIREMENTS

- Never exceed 6,000 kilograms (13,200 pounds) of hazardous waste on-site. If that amount is exceeded, then the SQG becomes subject to TSDF permitting requirements and standards for all of their hazardous waste. **[More stringent than EPA]**
- Never exceed 1 kilogram (2.2 pounds) of acutely hazardous waste on-site. If that amount is exceeded, then the SQG becomes subject to LQG standards for that acutely hazardous waste. **[More stringent than EPA]**
- Must make a hazardous waste determination using one of the methods described in 40 CFR 262.11.
  - If analytical testing will be conducted, the generator must use a laboratory certified by KDHE. **[More stringent than EPA]**
- Must obtain an EPA identification Number from KDHE.
- Store hazardous waste on-site for 180 days or less (and not exceed 6,000 kilograms) or 270 days or less if the generator must transport hazardous waste more than 200 miles for off-site treatment, storage or disposal (If the generator exceeds the 180- or 270-day requirement, then they become subject to all permitting requirements of a TSDF).
- Must update information on the Notification of Regulated Waste Activity form as it changes (within 60 days of change). **[More stringent than EPA]**
- Must use a transporter and TSDF who has an EPA Identification Number.
- Must use a transporter who has properly registered with KDHE. **[More stringent than EPA]**
- Must use a hazardous waste manifest pursuant to 40 CFR 262 subpart B.
- Generators exporting or importing hazardous waste must follow the requirements of 40 CFR Subparts E and F.
- Meet all of the Land Disposal Restriction requirements as referenced in KAR 28-31-268**.**
- Can use a tolling agreement if the requirements of 40 CFR 262.20(e) are met.

SQG RECORDKEEPING, REPORTING, AND FEE REQUIREMENTS

- Maintain a signed copy of each hazardous waste manifest on-site for a minimum of three (3) years.
- Maintain records of any test results, waste analyses, or other waste determinations made in accordance with 40 CFR 262.11 for a minimum of three years from the date that the waste was last treated and/or disposed.
- Follow the exception reporting requirements of 40 CFR 262.42(b) if a manifest is not received from the designated facility (TSDF) within 60 days of the date the waste was accepted by the first transporter.
- Prepare and submit a report to the secretary by April 1 of each year that indicates your generator status. **[More stringent than EPA]**
- Maintain a copy of the required report due on April 1 for a minimum of three (3) years from the date the report was due. **[More stringent than EPA]**
- Submit the appropriate monitoring fee as required in KAR 28-31-10 with the required report due on April 1. **[More stringent than EPA]**

- Maintain copies of all inspection logs for a minimum of three (3) years. **[More stringent than EPA]**
- Maintain a copy of all training records for a minimum of three (3) years. **[More stringent than EPA]**

SQG CONTAINER MANAGEMENT REQUIREMENTS

- Each container must be in good condition.
- Each container must be compatible with its contents.
- Each container must be kept closed except when adding or removing waste.
- Hazardous wastes must not be stored near other hazardous wastes or materials with which it is incompatible.
- Weekly inspections must be conducted for all areas where hazardous waste is stored.
  - At a minimum, the inspections should be documented in a log and should include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions.
- Clearly mark the date upon which each period of accumulation begins and ensure that the date is visible for inspection on each container.
- Clearly label or mark each container with the words "Hazardous Waste".
- Meet the pre-transport requirements as follows:
  - All waste transported or offered for transport off-site must be packaged in accordance with the applicable U.S. Department of Transportation (DOT) regulations on packaging under 49 CFR parts 173, 178, and 179.
  - All waste transported or offered for transport off-site must be labeled in accordance with the applicable DOT regulations on hazardous materials under 49 CFR part 172.
  - All waste transported or offered for transport off-site must be marked in accordance with the applicable DOT regulations under 49 CFR part 172.
  - Before transporting hazardous waste or offering hazardous waste for transportation offsite, the generator must placard or offer the initial transporter the appropriate placards according to DOT regulations for hazardous materials under 49 CFR part 172, subpart F.

SQG Satellite Accumulation

- A SQG may accumulate 55 gallons or less, in no more than one container, of each type of hazardous waste (or one quart or less, in no more than one container, of each type of acutely hazardous waste listed in 40 CFR 261.33(e)) at or near any point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without a permit or interim status and without this waste becoming subject to accumulation time limits provided the following conditions are met: **[More stringent than EPA]**
  - Containers are in good condition;
  - Containers are compatible with the waste they are holding;
  - Containers are always closed except when adding or removing waste;
  - Containers are clearly marked with the words "Hazardous Waste"; **[More stringent than EPA]**
  - Mark the accumulation start date on the container when the 55-gallon limit is exceeded (or the container otherwise no longer meets the definition of a satellite container); and
  - Move the container to storage (or manage it as a storage container at that location) within 3 days of the container no longer meeting the definition of a satellite container.

SQG Tanks

- Clearly mark the date upon which each period of accumulation begins and ensure that the date is visible for inspection on each tank.
- Clearly label or mark each tank with the words “Hazardous Waste”.
- Treatment or storage of hazardous waste in tanks must comply with 40 CFR 265.17(b).
- Contents of the tank should not cause it to corrode or otherwise fail before the end of its intended life.
- Uncovered tanks must be operated to ensure at least 60 centimeters (2 feet) of freeboard, unless the tank is equipped with a containment structure (e.g., dike or trench), a drainage control system, or a diversion structure (e.g., standby tank) with a capacity that equals or exceeds the volume of the top 60 centimeters (2 feet) of the tank.
- Where hazardous waste is continuously fed into a tank, the tank must be equipped with a means to stop this in-flow.
- Generators who accumulate between 100 and 1,000 kilograms (220 and 2,200 pounds) per month of hazardous waste in tanks, must:
  - Conduct daily and/or weekly inspections of the tank and its systems as required in 40 CFR 265.201(c) and/or (d).
  - Upon closure, remove all hazardous waste from tanks, discharge control equipment, and discharge confinement structures.
  - Follow the special requirements found in 40 CFR 265.201(g) for ignitable or reactive waste.
  - Follow the special requirements found in 40 CFR 265.201(h) for incompatible waste.

SQG PREPAREDENSS AND PREVENTION

- The facility must be maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.
- The facility must be equipped with the following unless none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:
  - An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;
  - A device such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams;
  - Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and;
  - Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.
- The facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.
- Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee (unless such a device is not required under 40 CFR 265.32).
- Aisle space must be maintained to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency.

- The generator must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations. If state or local authorities refuse to enter into such an agreement, then the generator must document the refusal in the operating record:
  - Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes;
  - Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;
  - Agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and
  - Agreements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.
- Must have an emergency coordinator on-site or on call (able to be on-site within 30 minutes) at all times. This emergency coordinator must be able to coordinate all emergency response measures specified below.
- The following information must be posted next to at least one telephone:
  - The name and telephone number of the emergency coordinator;
  - Location of fire extinguishers and spill control material, and, if present, fire alarm; and
  - The telephone number of the fire department, unless the facility has a direct alarm.
  - If the generator relies solely on cell phones:
    - The information listed above must be posted on walls so that they can be readily seen by employees;
    - Employees shall be trained on the locations of these postings; and
    - Management personnel shall have these numbers programmed into their cell phones.
- The emergency coordinator must respond to any emergencies that arise and meet the response requirements of 40 CFR 262.34(d)(5)(iv).

SQG TRAINING

Each SQG shall ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies.

This training should be: **[More stringent than EPA]**

- Provided within 6 months of hire (or transfer to a new position);
- Be repeated at least annually; and
- Documented by recording all of the following:
  - The name of the employee;
  - Date of the training;
  - A list of the topics covered in the training.

Training records must be maintained for a minimum of 3 years.

D. Large Quantity Generator (LQG) Requirements

To be classified as a LQG, a generator must meet the following criteria:

- Generate 1,000 kilograms (2,200 pounds) or more of hazardous waste in a calendar month; or
- Generate or accumulate 1 kilogram (2.2 pounds) or more of acutely hazardous waste or 100 kilograms (220 pounds) or more of other wastes listed in 40 CFR 261.5(e) in a single calendar month.

LQG GENERAL REQUIREMENTS

- Must make a hazardous waste determination using one of the methods described in 40 CFR 262.11.
  - If analytical testing will be conducted, the generator must use a laboratory certified by KDHE. **[More stringent than EPA]**
- Must obtain an EPA identification Number from KDHE.
- Store hazardous waste on-site for 90 days or less.
  - One 30-day extension can be granted at the discretion of KDHE.
  - If the generator exceeds the 90 day requirement without being granted an extension by KDHE, then they become subject to all permitting requirements of a TSDF.
- Must update information on the Notification of Regulated Waste Activity form as it changes (within 60 days of change). **[More stringent than EPA]**
- Must use a transporter and TSDF who has an EPA Identification Number.
- Must use a transporter who has properly registered with KDHE. **[More stringent than EPA]**
- Must use a hazardous waste manifest pursuant to 40 CFR subpart B.
- Meet all of the Land Disposal Restriction requirements as referenced in KAR 28-31-268**.**
- Generators exporting or importing hazardous waste must follow the requirements of 40 CFR Subparts E and F.

LQG RECORDKEEPING, REPORTING AND FEE REQUIREMENTS

- Maintain a signed copy of each hazardous waste manifest on-site for a minimum of three (3) years.
- Maintain records of any test results, waste analyses, or other waste determinations made in accordance with 40 CFR 262.11 for a minimum of three years from the date that the waste was last treated and/or disposed.
- Follow the exception reporting requirements of 40 CFR 262.42(a) if a manifest is not received within 35 days of the date the waste was accepted by the first transporter. These requirements include contacting the transporter and designated facility to locate the waste and obtaining a copy of the manifest with the signature from the designated facility. It may also include filing an exception report with KDHE if the signed copy of the manifest is not received within 45 days of the date the waste was accepted by the initial transporter.
- Follow the biennial reporting requirements of 40 CFR 262.41.
- Prepare and submit a report to the secretary by March 1 of each year that indicates your generator status. **[More stringent than EPA]**
- Maintain a copy of the required report due on March 1 for a minimum of three (3) years from the date the report was due. **[More stringent than EPA]**
- Submit the appropriate monitoring fee as required in KAR 28-31-10(g) with the required report due on March 1. **[More stringent than EPA]**
- Maintain copies of all inspection logs for a minimum of three (3) years. **[More stringent than EPA]**

- Maintain all of the following records for all employees whose job responsibilities include managing hazardous waste as required by 40 CFR 265.16:
  - The job title for each position;
  - A written job description for each position, which must include the requisite skill, education, or other qualifications, and hazardous waste duties of facility personnel assigned to each position;
  - A written description of the type and amount of both introductory and continuing training that will be given to each person;
  - Records that document the training or job experience required;
  - Training records must be maintained for current employees until closure of the facility, and on former employees for 3 years from the date employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

LQG CONTAINER MANAGEMENT REQUIREMENTS

- Each container must be in good condition.
- Each container must be compatible with its contents.
- Each container must be kept closed except when adding or removing waste.
- Hazardous wastes must not be stored near other hazardous wastes or materials with which it is incompatible.
- Weekly inspections must be conducted for all areas where hazardous waste is stored.
  - At a minimum, the inspections should be documented in a log and should include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions.
- Clearly mark the date upon which each period of accumulation begins and ensure that the date is visible for inspection on each container.
- Clearly label or mark each container with the words “Hazardous Waste”.
- Meet the pre-transport requirements as follows:
  - All waste transported or offered for transport off-site must be packaged in accordance with the applicable U.S. Department of Transportation (DOT) regulations on packaging under 49 CFR parts 173, 178, and 179.
  - All waste transported or offered for transport off-site must be labeled in accordance with the applicable DOT regulations on hazardous materials under 49 CFR part 172.
  - All waste transported or offered for transport off-site must be marked in accordance with the applicable DOT regulations under 49 CFR part 172.
  - Before transporting hazardous waste or offering hazardous waste for transportation offsite, the generator must placard or offer the initial transporter the appropriate placards according to DOT regulations for hazardous materials under 49 CFR part 172, subpart F.
- Comply with the requirements of 40 CFR subparts AA, BB, and CC.

LQG Satellite Accumulation

- Any generator may accumulate 55 gallons or less, in no more than one container, of each type of hazardous waste (or one quart or less, in no more than one container, of each type of acutely hazardous waste listed in 40 CFR 261.33(e)) at or near any point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without a permit or interim status and without this waste becoming subject to accumulation time limits provided: **[More stringent than EPA]**
  - Containers are in good condition;
  - Containers are compatible with the waste they are holding;
  - Containers are always closed except when adding or removing waste;

- Containers are clearly marked with the words “Hazardous Waste”; **[More stringent than EPA]**
- Mark the accumulation start date on the container when the 55-gallon limit is exceeded (or the container otherwise no longer meets the definition of a satellite container); and
- Move the container to storage (or manage it as a storage container at that location) within 3 days of the container no longer meeting the definition of a satellite container.

LQG Tanks

- Clearly mark the date upon which each period of accumulation begins and ensure that the date is visible for inspection on each tank.
- Clearly label or mark each tank with the words “Hazardous Waste”.
- LQGs storing hazardous waste in tanks must comply with the applicable requirements of 40 CFR 265 subparts J, AA, BB, and CC of 40 CFR, except Sections 265.197(c) and 265.200.
  - Daily inspections must be conducted for all tank systems holding hazardous waste.
    - At a minimum, the inspections should be documented in a log and should include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions.

LQG PREPAREDNESS AND PREVENTION

- The facility must be maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.
- The facility must be equipped with the following unless none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:
  - An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;
  - A device such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams;
  - Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and;
  - Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.
- The facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.
- Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee (unless such a device is not required under 40 CFR 265.32).
- Aisle space must be maintained to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency.
- The generator must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations. If state or local authorities refuse to enter into such an agreement, then the generator must document the refusal in the operating record:
  - Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated

hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes;
    - Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;
    - Agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and
    - Agreements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.
- The LQG must comply with the requirements of 40 CFR 265 subpart D, Contingency Plan and Emergency Procedures.

LQG TRAINING

The LQG must comply with the personnel training requirements of 40 CFR 265.16 as required by 40 CFR 262.34(a)(4) and KAR 28-31-262, including all of the following:

- Facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their hazardous waste management duties.
- This program must be directed by a person trained in hazardous waste management procedures, and must include instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.
- At a minimum, the training program must be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including where applicable:
    - Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;
    - Key parameters for automatic waste feed cut-off systems;
    - Communications or alarm systems;
    - Response to fires or explosions;
    - Response to ground-water contamination incidents; and
    - Shutdown of operations.
- For facility employees that receive emergency response training pursuant to OSHA regulation 29 CFR 1910.120(p)(8) and 1910.120(q), the facility is not required to provide separate emergency response training pursuant to this section, provided that the overall facility training meets all the requirements of this section.
- Personnel must complete the training program within six months of hire (or transferring to a new position managing hazardous waste) and cannot work unsupervised until the training is completed.
- Personnel must receive annual training after the initial training is completed.

VIII. Land Disposal Restrictions (40 CFR 268) and Hazardous Waste Manifesting (40 CFR 262)

Kansas has adopted no specific state requirements for Land Disposal Restrictions (LDR) or hazardous waste manifests. Kansas also does not require that copies of manifests be submitted to KDHE at the time of shipment, which is a requirement in some other states. In Kansas, most generators use a disposal contractor to transport and dispose of their hazardous waste. These contractors must be registered with KDHE if they are transporting hazardous waste in or through Kansas. Most generators rely on these contractors to complete the necessary paperwork for shipping their hazardous waste to the disposal facility. The required paperwork generally includes the LDR and the manifest. It is in the best interest of the generator that they have someone signing the manifest who is familiar with the Kansas Hazardous Waste Program and understands what they are signing and verifies that the information on the manifest and LDR are correct before signing. It is also important that generators retain their copies of these documents for the required amount of time for their generator status (see Generator Recordkeeping requirements in the previous sections).

The manifest is used to track the waste from the point of generation (facility where it was generated) to the point where it is finally treated to render it non-hazardous and/or disposed. This final point is generally a permitted treatment/storage/disposal facility (TSDF). This management system is commonly referred to as the cradle-to-grave system and the manifest ensures that the generator is able to track their waste to that final point. When the generator signs the manifest, a copy will be provided to them to be retained until they receive the final copy in the mail from the TSDF showing the final signature documenting that the waste was received at the final destination. It is this final copy that must be retained under the recordkeeping requirements. If a generator does not receive that final copy they must begin trying to locate their waste by contacting the transporter and possibly the final destination facility. If the generator cannot locate their waste, then they should contact KDHE and file an exception report. KDHE will then assist in finding the waste. There are regulatory time limits for exception reporting and the amount of time will depend on the generator's classification (i.e. KSQG, SQG, or LQG).

The LDR system was created by EPA to ensure that wastes are properly treated before being land disposed to prevent contaminants from leaving the site and/or contaminating the environment. Understanding the entire LDR system and all of its requirements can be difficult. As previously stated, KDHE recognizes that most generators in Kansas utilize a contractor for this service. It is important that the generator understand the LDR requirements and the forms that their contractors are using to document that their waste is in compliance with the LDR requirements. The generator should ensure that they have a copy of their most recent LDR notification for each waste stream, for each TSDF used for that waste stream. The LDR should include all waste codes assigned to that hazardous waste and analytical data or other information about underlying constituents in the waste. EPA changed the LDR requirements a few years ago to say that each generator only needed to send one LDR notice to each TSDF for each waste stream. If the generator (or contractor) chooses to send an LDR notice with each shipment of waste, then each new LDR used will supersede the previous one.

IX. Choosing a Hazardous Waste Management Facility and/or Hazardous Waste Transporter/Contractor

Choosing a hazardous waste management facility (TSDF) and/or a hazardous waste transporter (transporter) can be daunting. There are many choices in most Kansas communities and many factors should be considered. The hazardous waste regulations are cradle to grave, meaning that the generator can retain liability for the waste long after it has been disposed. It is therefore imperative that generators choose contractors that will help them be in compliance with the regulatory requirements and that will ensure that their waste is properly managed, treated, and disposed.

If possible, the generator should try to make a personal visit to the TSDF and meet with potential transporters. It is also a good idea to contact the regulatory agencies in the states where the facilities are located to ensure that the transporter and TSDF do not have major compliance problems in their home states. At a minimum, contact KDHE's Bureau of Waste Management, 785-296-1600, to ensure that a transporter is registered with KDHE.

The following questions should be addressed to the facility representative.

- Are they acting as the final treatment/disposal facility or are they a broker? If they are a broker, how is the actual facility going to treat or dispose of the waste?
- Who are some of their other customers in your area with similar wastes? Check the company's reputation with their other customers.
- How will the waste be transported to the facility? Does the company use their own vehicles or a contract carrier? Who is the contract carrier?
- Obtain a copy of the company's EPA Notification of Regulated Waste Activity (Form 8700-12) and copies of portions of permits that cover the kinds of wastes handled at the facility.
- Does the facility have a minimum charge for their services for each shipment?
- Is a waste sample required? If so, what fee is assessed for analysis? If you have already had the waste analyzed by an outside laboratory, is that analysis acceptable? Can they use a lab certified by KDHE and assist with a hazardous waste determination?
- How long will it take to complete arrangements for shipment?

Contact the regulatory agency that monitors the facility. Ask to speak with the person most familiar with the site. Most agencies will require a formal information request for open records. Some suggested questions to ask are:

- Is the facility currently in compliance with all regulations? If not, what are their deficiencies?
- Is the facility currently under any consent orders for past deficiencies?
- Has the facility received any fines or penalties in the past?
- How often is the facility inspected?
- Is the facility listed on the EPA National Priorities List (NPL) (Superfund cleanup) list?
- Is the facility transporter or contract carrier transporter registered as a hazardous waste transporter in Kansas?
- Obtain a contract with the transporter and/or TSDF for their services. Know where your waste is going, how it is being managed, and the disposition of any residues, ash, and empty drums.

X. How to Avoid Compliance Problems and Minimize Liability

The following recommendations are intended to help ensure compliance with the hazardous waste regulations and to minimize the liability associated with generating hazardous wastes.

- Minimize the amount of hazardous waste generated. This can be done in several ways including a formal Waste Management System or a simple review of what is used at the facility and a look at alternatives to see if less toxic substitutes can be found. Another waste minimization method is to change to different processes that utilize less product and/or produce less waste. Most waste minimization projects pay for themselves within a couple of years through reduced product purchases and reduced waste disposal costs.
- Good housekeeping, by removing old, unused products, empty containers, old parts, etc. to create space and reduce potential regulatory issues and complaints.
- Locate and deal with reputable transportation, treatment, and disposal firms (see Section IX). If a price quote is substantially less than the competition, there is probably a reason why.
- Have backup transporters and disposal sites selected in case your primary providers have problems.
- Recognize when you lack the expertise to handle a particular problem and seek help from a person with experience in hazardous waste management. These consultants can generally be found in the yellow pages or through a quick internet search. Check listings in the nearest metropolitan areas. If selecting someone from out of state, make sure they have properly registered with KDHE, as applicable.
- Follow up on all hazardous waste shipments to ensure they reach their intended destination and are treated or disposed.
- Do not mix hazardous wastes with nonhazardous wastes unless you are familiar with all regulations that may apply. The resultant mixture will be a hazardous waste and may be more difficult or costly to dispose than the original waste.
- Maintain all records regarding the hazardous waste program (test results, contingency plan, manifests, exception reports, annual reports, training documents) in one location.
- Designate at least one employee with an appropriate background to be responsible for hazardous waste management. Give that employee the authority and resources to do the job, and then hold him or her accountable.
- Conduct inspections of your facility and its operations. Do so with an open mind and no preconceived notions of the way things ought to be.

XI. Resources Available to Assist in Properly Managing Hazardous Waste

Kansas Department of Health and Environment (KDHE)

The KDHE Bureau of Waste Management (BWM) in Topeka is the primary source of regulatory information and interpretations. BWM staff can be contacted by calling (785) 296-1600 or by writing to:

Bureau of Waste Management
Curtis State Office Building
1000 SW Jackson, Suite 320
Topeka, KS 66612-1366

KDHE also offers assistance through our six district offices where we have available staff that are experts on the Kansas hazardous waste program.

The KDHE BWM website, located at www.kdheks.gov/waste offers a wide range of information, including the location and phone numbers for our district offices, Topeka staff phone numbers and e-mail addresses, electronic copies of all regulations, policies, technical guidance documents, helpful handouts (including the Hazardous Waste Generator Handbook), and many other resources. Most of these documents are also available on compact disk (CD); a copy can be mailed to you or picked up from a district office or the central office in Topeka. Also available on our website is information regarding past and future training, including copies of slides used in those trainings.

U.S. Environmental Protection Agency (EPA)

EPA provides information on the federal hazardous waste regulations to interested parties. If you have questions, please visit one of EPA's websites. Also, EPA staffs a regional office in Kansas City, Kansas (EPA Region VII). The Region VII office maintains a library of current regulations, guidance documents, and training manuals. Many of these materials are available to the public at no cost through the internet. The telephone number for the Region VII Information Resources Center is (913) 551-7241.

Kansas Small Business Environmental Assistance Program (SBEAP)

The Small Business Environmental Assistance Program (SBEAP) provides guidance in compliance and technical matters to facilities that otherwise would not have access to such help because of financial constraints. SBEAP emphasizes assistance designed to diminish the burden of compliance and the SBEAP staff will work with you to implement pollution prevention practices such as material substitution, process optimization, waste minimization, and recycling. All services provided by SBEAP are completely confidential, non-regulatory, and free. The SBEAP program is administered by the Pollution Prevention Institute (PPI) at Kansas State University (KSU) for KDHE. Contact PPI at 1-800-578-8898. More information may be obtained from the SBEAP website: www.sbeap.org/.

Other Institutions

Other Kansas colleges, universities, and community colleges offer environmental training. For information on any available training, contact the continuing education director at the institution.

Trade Associations

Numerous trade associations exist on local, state, and national levels that represent the interests of individuals or companies who perform a common industrial activity. These associations are generally familiar with the regulations affecting the industry they represent and are able to offer advice and assistance in interpreting the regulations. Some associations also offer training courses, seminars, or conferences focusing on the interpretation and application of regulations.

ATTACHMENT 1

TOXICITY CHARACTERISTIC CONSTITUENTS – REGULATORY LIMITS AND WASTE CODES

EPA HW No.[1]	Contaminant	CAS No.[2]	Regulatory Level (mg/L)
D004	Arsenic	7440–38–2	5.0
D005	Barium	7440–39–3	100.0
D018	Benzene	71–43–2	0.5
D006	Cadmium	7440–43–9	1.0
D019	Carbon tetrachloride	56–23–5	0.5
D020	Chlordane	57–74–9	0.03
D021	Chlorobenzene	108–90–7	100.0
D022	Chloroform	67–66–3	6.0
D007	Chromium	7440–47–3	5.0
D023	o-Cresol	95–48–7	[4]200.0
D024	m-Cresol	108–39–4	[4]200.0
D025	p-Cresol	106–44–5	[4]200.0
D026	Cresol		[4]200.0
D016	2,4-D	94–75–7	10.0
D027	1,4-Dichlorobenzene	106–46–7	7.5
D028	1,2-Dichloroethane	107–06–2	0.5
D029	1,1-Dichloroethylene	75–35–4	0.7
D030	2,4-Dinitrotoluene	121–14–2	[3]0.13
D012	Endrin	72–20–8	0.02
D031	Heptachlor (and its epoxide)	76–44–8	0.008
D032	Hexachlorobenzene	118–74–1	[3]0.13
D033	Hexachlorobutadiene	87–68–3	0.5
D034	Hexachloroethane	67–72–1	3.0
D008	Lead	7439–92–1	5.0
D013	Lindane	58–89–9	0.4
D009	Mercury	7439–97–6	0.2
D014	Methoxychlor	72–43–5	10.0
D035	Methyl ethyl ketone	78–93–3	200.0
D036	Nitrobenzene	98–95–3	2.0
D037	Pentrachlorophenol	87–86–5	100.0
D038	Pyridine	110–86–1	[3]5.0
D010	Selenium	7782–49–2	1.0
D011	Silver	7440–22–4	5.0
D039	Tetrachloroethylene	127–18–4	0.7
D015	Toxaphene	8001–35–2	0.5
D040	Trichloroethylene	79–01–6	0.5
D041	2,4,5-Trichlorophenol	95–95–4	400.0
D042	2,4,6-Trichlorophenol	88–06–2	2.0

D017	2,4,5-TP (Silvex)	93–72–1	1.0
D043	Vinyl chloride	75–01–4	0.2

[1]Hazardous waste number.

[2]Chemical abstracts service number.

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

[4]If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 mg/l.

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

ATTACHMENT 2

HAZARDOUS WASTES FROM NON-SPECIFIC SOURCES (F-LIST)

40 CFR 261.31 Hazardous wastes from non-specific sources.

(a) The following solid wastes are listed hazardous wastes from non-specific sources unless they are excluded under 40 CFR 260.20 and 260.22 and listed in appendix IX.

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
Generic:		
F001	The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures	(T)
F002	The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures	(T)
F003	The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures	(I)*
F004	The following spent non-halogenated solvents: Cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures	(T)
F005	The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures	(I,T)
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3)	(T)

	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	
F007	Spent cyanide plating bath solutions from electroplating operations	(R, T)
F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process	(R, T)
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process	(R, T)
F010	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process	(R, T)
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations	(R, T)
F012	Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process	(T)
F019	Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process. Wastewater treatment sludges from the manufacturing of motor vehicles using a zinc phosphating process will not be subject to this listing at the point of generation if the wastes are not placed outside on the land prior to shipment to a landfill for disposal and are either: disposed in a Subtitle D municipal or industrial landfill unit that is equipped with a single clay liner and is permitted, licensed or otherwise authorized by the state; or disposed in a landfill unit subject to, or otherwise meeting, the landfill requirements in §258.40, §264.301 or §265.301. For the purposes of this listing, motor vehicle manufacturing is defined in paragraph (b)(4)(i) of this section and (b)(4)(ii) of this section describes the recordkeeping requirements for motor vehicle manufacturing facilities	(T)
F020	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol.)	(H)
F021	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives	(H)
F022	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions	(H)
F023	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of Hexachlorophene from highly purified 2,4,5-trichlorophenol.)	(H)

F024	Process wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor clean-out wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. (This listing does not include wastewaters, wastewater treatment sludges, spent catalysts, and wastes listed in §261.31 or §261.32.)	(T)
F025	Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution	(T)
F026	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions	(H)
F027	Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing Hexachlorophene sythesized from prepurified 2,4,5-trichlorophenol as the sole component.)	(H)
F028	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027	(T)
F032	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with §261.35 of this chapter or potentially cross-contaminated wastes that are otherwise currently regulated as hazardous wastes (i.e., F034 or F035), and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol	(T)
F034	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol	(T)
F035	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol	(T)
F037	Petroleum refinery primary oil/water/solids separation sludge—Any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of	(T)

	process wastewaters and oily cooling wastewaters from petroleum refineries. Such sludges include, but are not limited to, those generated in oil/water/solids separators; tanks and impoundments; ditches and other conveyances; sumps; and stormwater units receiving dry weather flow. Sludge generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in §261.31(b)(2) (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing. This listing does include residuals generated from processing or recycling oil-bearing hazardous secondary materials excluded under §261.4(a)(12)(i), if those residuals are to be disposed of	
F038	Petroleum refinery secondary (emulsified) oil/water/solids separation sludge—Any sludge and/or float generated from the physical and/or chemical separation of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries. Such wastes include, but are not limited to, all sludges and floats generated in: induced air flotation (IAF) units, tanks and impoundments, and all sludges generated in DAF units. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment units as defined in §261.31(b)(2) (including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and F037, K048, and K051 wastes are not included in this listing	(T)
F039	Leachate (liquids that have percolated through land disposed wastes) resulting from the disposal of more than one restricted waste classified as hazardous under subpart D of this part. (Leachate resulting from the disposal of one or more of the following EPA Hazardous Wastes and no other Hazardous Wastes retains its EPA Hazardous Waste Number(s): F020, F021, F022, F026, F027, and/or F028.)	(T)

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

[46 FR 4617, Jan. 16, 1981]

ATTACHMENT 3

HAZARDOUS WASTES FROM SPECIFIC SOURCES (K-LIST)

40 CFR 261.32 Hazardous wastes from specific sources.

(a)The following solid wastes are listed hazardous wastes from specific sources unless they are excluded under 40 CFR 260.20 and 260.22 and listed in appendix IX.

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 acetaldehyde from ethylene	(T)
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	(R, T)
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 in 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 naphthalene	(T)
K024	Distillation bottoms from the production of phthalic anhydride from naphthalene	(T)
K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene	(T)
K026	Stripping still tails from the production of methy 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)
K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene	(T)
K083	Distillation bottoms from aniline production	(T)
K085	Distillation or fractionation column bottoms from the production of chlorobenzenes	(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)
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)
K103	Process residues from aniline extraction from the production of aniline	(T)
K104	Combined wastewater streams generated from nitrobenzene/aniline production	(T)
K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes	(T)
K107	Column bottoms from product separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazines	(C,T)
K108	Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides	(I,T)
K109	Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides	(T)
K110	Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides	(T)
K111	Product washwaters from the production of dinitrotoluene via nitration of toluene	(C,T)
K112	Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene	(T)
K113	Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene	(T)
K114	Vicinals from the purification of toluenediamine in the production of	(T)

	toluenediamine via hydrogenation of dinitrotoluene	
K115	Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene	(T)
K116	Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine	(T)
K117	Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene	(T)
K118	Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene	(T)
K136	Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene	(T)
K149	Distillation bottoms from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups, (This waste does not include still bottoms from the distillation of benzyl chloride.)	(T)
K150	Organic residuals, excluding spent carbon adsorbent, from the spent chlorine gas and hydrochloric acid recovery processes associated with the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups	(T)
K151	Wastewater treatment sludges, excluding neutralization and biological sludges, generated during the treatment of wastewaters from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups	(T)
K156	Organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)	(T)
K157	Wastewaters (including scrubber waters, condenser waters, washwaters, and separation waters) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)	(T)
K158	Bag house dusts and filter/separation solids from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)	(T)
K159	Organics from the treatment of thiocarbamate wastes	(T)
K161	Purification solids (including filtration, evaporation, and centrifugation solids), bag house dust and floor sweepings from the production of dithiocarbamate acids and their salts. (This listing does not include K125 or K126.)	(R,T)
K174	Wastewater treatment sludges from the production of ethylene dichloride or vinyl chloride monomer (including sludges that result from commingled ethylene dichloride or vinyl chloride monomer wastewater and other wastewater), unless the sludges meet the following conditions: (i) they are disposed of in a subtitle C or non-hazardous landfill licensed or permitted by the state or federal government; (ii) they are not otherwise placed on the land prior to final disposal; and (iii) the generator maintains documentation demonstrating that the waste was either disposed of in an on-site landfill or	(T)

	consigned to a transporter or disposal facility that provided a written commitment to dispose of the waste in an off-site landfill. Respondents in any action brought to enforce the requirements of subtitle C must, upon a showing by the government that the respondent managed wastewater treatment sludges from the production of vinyl chloride monomer or ethylene dichloride, demonstrate that they meet the terms of the exclusion set forth above. In doing so, they must provide appropriate documentation (e.g., contracts between the generator and the landfill owner/operator, invoices documenting delivery of waste to landfill, etc.) that the terms of the exclusion were met	
K175	Wastewater treatment sludges from the production of vinyl chloride monomer using mercuric chloride catalyst in an acetylene-based process	(T)
K181	Nonwastewaters from the production of dyes and/or pigments (including nonwastewaters commingled at the point of generation with nonwastewaters from other processes) that, at the point of generation, contain mass loadings of any of the constituents identified in paragraph (c) of this section that are equal to or greater than the corresponding paragraph (c) levels, as determined on a calendar year basis. These wastes will not be hazardous if the nonwastewaters are: (i) disposed in a Subtitle D landfill unit subject to the design criteria in §258.40, (ii) disposed in a Subtitle C landfill unit subject to either §264.301 or §265.301, (iii) disposed in other Subtitle D landfill units that meet the design criteria in §258.40, §264.301, or §265.301, or (iv) treated in a combustion unit that is permitted under Subtitle C, or an onsite combustion unit that is permitted under the Clean Air Act. For the purposes of this listing, dyes and/or pigments production is defined in paragraph (b)(1) of this section. Paragraph (d) of this section describes the process for demonstrating that a facility's nonwastewaters are not K181. This listing does not apply to wastes that are otherwise identified as hazardous under §§261.21–261.24 and 261.31–261.33 at the point of generation. Also, the listing does not apply to wastes generated before any annual mass loading limit is met	(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)
K176	Baghouse filters from the production of antimony oxide, including filters from the production of intermediates (e.g., antimony metal or crude antimony oxide)	(E)
K177	Slag from the production of antimony oxide that is speculatively accumulated or disposed, including slag from the production of intermediates (e.g., antimony metal or crude antimony oxide)	(T)
K178	Residues from manufacturing and manufacturing-site storage of ferric chloride from acids formed during the production of titanium dioxide using the chloride-ilmenite process	(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)
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 diethylphosphorodithioic 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)
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)
K097	Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane	(T)
K098	Untreated process wastewater from the production of toxaphene	(T)
K099	Untreated wastewater from the production of 2,4-D	(T)
K123	Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salt	(T)
K124	Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts	(C, T)
K125	Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts	(T)
K126	Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts	(T)
K131	Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide	(C, T)
K132	Spent absorbent and wastewater separator solids from the production of methyl bromide	(T)
Explosives:		
K044	Wastewater treatment sludges from the manufacturing and processing of explosives	(R)
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)
K169	Crude oil storage tank sediment from petroleum refining operations	(T)
K170	Clarified slurry oil tank sediment and/or in-line filter/separation solids from petroleum refining operations	(T)
K171	Spent Hydrotreating catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media)	(I,T)
K172	Spent Hydrorefining catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media)	(I,T)
Iron and steel:		
K061	Emission control dust/sludge from the primary production of steel in electric furnaces	(T)
K062	Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332)	(C,T)
Primary aluminum:		
K088	Spent potliners from primary aluminum reduction	(T)
Secondary lead:		
K069	Emission control dust/sludge from secondary lead smelting. (Note: This listing is stayed administratively for sludge generated from secondary acid scrubber systems. The stay will remain in effect until further administrative action is taken. If EPA takes further action effecting this stay, EPA will publish a notice of the action in the Federal Register)	(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-arsenic 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)

K141	Process residues from the recovery of coal tar, including, but not limited to, collecting sump residues from the production of coke from coal or the recovery of coke by-products produced from coal. This listing does not include K087 (decanter tank tar sludges from coking operations)	(T)
K142	Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products produced from coal	(T)
K143	Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters, and wash oil recovery units from the recovery of coke by-products produced from coal	(T)
K144	Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recovery of coke by-products produced from coal	(T)
K145	Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal	(T)
K147	Tar storage tank residues from coal tar refining	(T)
K148	Residues from coal tar distillation, including but not limited to, still bottoms	(T)

ATTACHMENT 4

DISCARDED ACUTELY TOXIC COMMERCIAL CHEMICAL PRODUCTS, OFF-SPECIFICATION SPECIES, CONTAINER RESIDUES AND SPILLS THEREOF (P-LIST)

40 CFR 261.33 Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof.

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded as described in §261.2(a)(2)(i), when they are mixed with waste oil or used oil or other material and applied to the land for dust suppression or road treatment, when they are otherwise applied to the land in lieu of their original intended use or when they are contained in products that are applied to the land in lieu of their original intended use, or when, in lieu of their original intended use, they are produced for use as (or as a component of) a fuel, distributed for use as a fuel, or burned as a fuel.

[*Comment:* For the convenience of the regulated community the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), and R (Reactivity). Absence of a letter indicates that the compound only is listed for acute toxicity. Wastes are first listed in alphabetical order by substance and then listed again in numerical order by Hazardous Waste Number.]

These wastes and their corresponding EPA Hazardous Waste Numbers are:

Haz waste No.	Chemical abstracts No.	Substance
P023	107–20–0	Acetaldehyde, chloro-
P002	591–08–2	Acetamide, N-(aminothioxomethyl)-
P057	640–19–7	Acetamide, 2-fluoro-
P058	62–74–8	Acetic acid, fluoro-, sodium salt
P002	591–08–2	1-Acetyl-2-thiourea
P003	107–02–8	Acrolein
P070	116–06–3	Aldicarb
P203	1646–88–4	Aldicarb sulfone.
P004	309–00–2	Aldrin
P005	107–18–6	Allyl alcohol
P006	20859–73–8	Aluminum phosphide (R,T)
P007	2763–96–4	5-(Aminomethyl)-3-isoxazolol
P008	504–24–5	4-Aminopyridine
P009	131–74–8	Ammonium picrate (R)
P119	7803–55–6	Ammonium vanadate
P099	506–61–6	Argentate(1-), bis(cyano-C)-, potassium
P010	7778–39–4	Arsenic acid H_3AsO_4
P012	1327–53–3	Arsenic oxide As_2O_3
P011	1303–28–2	Arsenic oxide As_2O_5
P011	1303–28–2	Arsenic pentoxide
P012	1327–53–3	Arsenic trioxide

P038	692–42–2	Arsine, diethyl-
P036	696–28–6	Arsonous dichloride, phenyl-
P054	151–56–4	Aziridine
P067	75–55–8	Aziridine, 2-methyl-
P013	542–62–1	Barium cyanide
P024	106–47–8	Benzenamine, 4-chloro-
P077	100–01–6	Benzenamine, 4-nitro-
P028	100–44–7	Benzene, (chloromethyl)-
P042	51–43–4	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-
P046	122–09–8	Benzeneethanamine, alpha,alpha-dimethyl-
P014	108–98–5	Benzenethiol
P127	1563–66–2	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate.
P188	57–64–7	Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo[2,3-b]indol-5-yl methylcarbamate ester (1:1).
P001	[1]81–81–2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%
P028	100–44–7	Benzyl chloride
P015	7440–41–7	Beryllium powder
P017	598–31–2	Bromoacetone
P018	357–57–3	Brucine
P045	39196–18–4	2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[(methylamino)carbonyl] oxime
P021	592–01–8	Calcium cyanide
P021	592–01–8	Calcium cyanide $Ca(CN)_2$
P189	55285–14–8	Carbamic acid, [(dibutylamino)- thio]methyl-, 2,3-dihydro-2,2-dimethyl- 7-benzofuranyl ester.
P191	644–64–4	Carbamic acid, dimethyl-, 1-[(dimethyl-amino)carbonyl]- 5-methyl-1H- pyrazol-3-yl ester.
P192	119–38–0	Carbamic acid, dimethyl-, 3-methyl-1- (1-methylethyl)-1H- pyrazol-5-yl ester.
P190	1129–41–5	Carbamic acid, methyl-, 3-methylphenyl ester.
P127	1563–66–2	Carbofuran.
P022	75–15–0	Carbon disulfide
P095	75–44–5	Carbonic dichloride
P189	55285–14–8	Carbosulfan.
P023	107–20–0	Chloroacetaldehyde
P024	106–47–8	p-Chloroaniline
P026	5344–82–1	1-(o-Chlorophenyl)thiourea
P027	542–76–7	3-Chloropropionitrile
P029	544–92–3	Copper cyanide
P029	544–92–3	Copper cyanide Cu(CN)
P202	64–00–6	m-Cumenyl methylcarbamate.
P030		Cyanides (soluble cyanide salts), not otherwise specified
P031	460–19–5	Cyanogen
P033	506–77–4	Cyanogen chloride

P033	506–77–4	Cyanogen chloride (CN)Cl
P034	131–89–5	2-Cyclohexyl-4,6-dinitrophenol
P016	542–88–1	Dichloromethyl ether
P036	696–28–6	Dichlorophenylarsine
P037	60–57–1	Dieldrin
P038	692–42–2	Diethylarsine
P041	311–45–5	Diethyl-p-nitrophenyl phosphate
P040	297–97–2	O,O-Diethyl O-pyrazinyl phosphorothioate
P043	55–91–4	Diisopropylfluorophosphate (DFP)
P004	309–00–2	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa- chloro-1,4,4a,5,8,8a,-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)-
P060	465–73–6	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa- chloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5beta,8beta,8abeta)-
P037	60–57–1	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)-
P051	[1]72–20–8	2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta,7aalpha)-, & metabolites
P044	60–51–5	Dimethoate
P046	122–09–8	alpha,alpha-Dimethylphenethylamine
P191	644–64–4	Dimetilan.
P047	[1]534–52–1	4,6-Dinitro-o-cresol, & salts
P048	51–28–5	2,4-Dinitrophenol
P020	88–85–7	Dinoseb
P085	152–16–9	Diphosphoramide, octamethyl-
P111	107–49–3	Diphosphoric acid, tetraethyl ester
P039	298–04–4	Disulfoton
P049	541–53–7	Dithiobiuret
P185	26419–73–8	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O- [(methylamino)-carbonyl]oxime.
P050	115–29–7	Endosulfan
P088	145–73–3	Endothall
P051	72–20–8	Endrin
P051	72–20–8	Endrin, & metabolites
P042	51–43–4	Epinephrine
P031	460–19–5	Ethanedinitrile
P194	23135–22–0	Ethanimidothioic acid, 2-(dimethylamino)-N-[[(methylamino) carbonyl]oxy]-2-oxo-, methyl ester.
P066	16752–77–5	Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester
P101	107–12–0	Ethyl cyanide
P054	151–56–4	Ethyleneimine
P097	52–85–7	Famphur

P056	7782–41–4	Fluorine
P057	640–19–7	Fluoroacetamide
P058	62–74–8	Fluoroacetic acid, sodium salt
P198	23422–53–9	Formetanate hydrochloride.
P197	17702–57–7	Formparanate.
P065	628–86–4	Fulminic acid, mercury(2+) salt (R,T)
P059	76–44–8	Heptachlor
P062	757–58–4	Hexaethyl tetraphosphate
P116	79–19–6	Hydrazinecarbothioamide
P068	60–34–4	Hydrazine, methyl-
P063	74–90–8	Hydrocyanic acid
P063	74–90–8	Hydrogen cyanide
P096	7803–51–2	Hydrogen phosphide
P060	465–73–6	Isodrin
P192	119–38–0	Isolan.
P202	64–00–6	3-Isopropylphenyl N-methylcarbamate.
P007	2763–96–4	3(2H)-Isoxazolone, 5-(aminomethyl)-
P196	15339–36–3	Manganese, bis(dimethylcarbamodithioato-S,S′)-,
P196	15339–36–3	Manganese dimethyldithiocarbamate.
P092	62–38–4	Mercury, (acetato-O)phenyl-
P065	628–86–4	Mercury fulminate (R,T)
P082	62–75–9	Methanamine, N-methyl-N-nitroso-
P064	624–83–9	Methane, isocyanato-
P016	542–88–1	Methane, oxybis[chloro-
P112	509–14–8	Methane, tetranitro- (R)
P118	75–70–7	Methanethiol, trichloro-
P198	23422–53–9	Methanimidamide, N,N-dimethyl-N′-[3-[[(methylamino)-carbonyl]oxy]phenyl]-, monohydrochloride.
P197	17702–57–7	Methanimidamide, N,N-dimethyl-N′-[2-methyl-4-[[(methylamino)carbonyl]oxy]phenyl]-
P050	115–29–7	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide
P059	76–44–8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-
P199	2032–65–7	Methiocarb.
P066	16752–77–5	Methomyl
P068	60–34–4	Methyl hydrazine
P064	624–83–9	Methyl isocyanate
P069	75–86–5	2-Methyllactonitrile
P071	298–00–0	Methyl parathion
P190	1129–41–5	Metolcarb.
P128	315–8–4	Mexacarbate.
P072	86–88–4	alpha-Naphthylthiourea
P073	13463–39–3	Nickel carbonyl

P073	13463–39–3	Nickel carbonyl $Ni(CO)_4$, (T-4)-
P074	557–19–7	Nickel cyanide
P074	557–19–7	Nickel cyanide $Ni(CN)_2$
P075	[1]54–11–5	Nicotine, & salts
P076	10102–43–9	Nitric oxide
P077	100–01–6	p-Nitroaniline
P078	10102–44–0	Nitrogen dioxide
P076	10102–43–9	Nitrogen oxide NO
P078	10102–44–0	Nitrogen oxide NO_2
P081	55–63–0	Nitroglycerine (R)
P082	62–75–9	N-Nitrosodimethylamine
P084	4549–40–0	N-Nitrosomethylvinylamine
P085	152–16–9	Octamethylpyrophosphoramide
P087	20816–12–0	Osmium oxide OsO_4, (T-4)-
P087	20816–12–0	Osmium tetroxide
P088	145–73–3	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P194	23135–22–0	Oxamyl.
P089	56–38–2	Parathion
P034	131–89–5	Phenol, 2-cyclohexyl-4,6-dinitro-
P048	51–28–5	Phenol, 2,4-dinitro-
P047	[1]534–52–1	Phenol, 2-methyl-4,6-dinitro-, & salts
P020	88–85–7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-
P009	131–74–8	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P128	315–18–4	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester).
P199	2032–65–7	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate
P202	64–00–6	Phenol, 3-(1-methylethyl)-, methyl carbamate.
P201	2631–37–0	Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate.
P092	62–38–4	Phenylmercury acetate
P093	103–85–5	Phenylthiourea
P094	298–02–2	Phorate
P095	75–44–5	Phosgene
P096	7803–51–2	Phosphine
P041	311–45–5	Phosphoric acid, diethyl 4-nitrophenyl ester
P039	298–04–4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester
P094	298–02–2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester
P044	60–51–5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester
P043	55–91–4	Phosphorofluoridic acid, bis(1-methylethyl) ester
P089	56–38–2	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester
P040	297–97–2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P097	52–85–7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester
P071	298–00–0	Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl) ester

P204	57–47–6	Physostigmine.
P188	57–64–7	Physostigmine salicylate.
P110	78–00–2	Plumbane, tetraethyl-
P098	151–50–8	Potassium cyanide
P098	151–50–8	Potassium cyanide K(CN)
P099	506–61–6	Potassium silver cyanide
P201	2631–37–0	Promecarb
P070	116–06–3	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime
P203	1646–88–4	Propanal, 2-methyl-2-(methyl-sulfonyl)-, O-[(methylamino)carbonyl] oxime.
P101	107–12–0	Propanenitrile
P027	542–76–7	Propanenitrile, 3-chloro-
P069	75–86–5	Propanenitrile, 2-hydroxy-2-methyl-
P081	55–63–0	1,2,3-Propanetriol, trinitrate (R)
P017	598–31–2	2-Propanone, 1-bromo-
P102	107–19–7	Propargyl alcohol
P003	107–02–8	2-Propenal
P005	107–18–6	2-Propen-1-ol
P067	75–55–8	1,2-Propylenimine
P102	107–19–7	2-Propyn-1-ol
P008	504–24–5	4-Pyridinamine
P075	[1]54–11–5	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts
P204	57–47–6	Pyrrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)-.
P114	12039–52–0	Selenious acid, dithallium(1+) salt
P103	630–10–4	Selenourea
P104	506–64–9	Silver cyanide
P104	506–64–9	Silver cyanide Ag(CN)
P105	26628–22–8	Sodium azide
P106	143–33–9	Sodium cyanide
P106	143–33–9	Sodium cyanide Na(CN)
P108	[1]57–24–9	Strychnidin-10-one, & salts
P018	357–57–3	Strychnidin-10-one, 2,3-dimethoxy-
P108	[1]57–24–9	Strychnine, & salts
P115	7446–18–6	Sulfuric acid, dithallium(1+) salt
P109	3689–24–5	Tetraethyldithiopyrophosphate
P110	78–00–2	Tetraethyl lead
P111	107–49–3	Tetraethyl pyrophosphate
P112	509–14–8	Tetranitromethane (R)
P062	757–58–4	Tetraphosphoric acid, hexaethyl ester
P113	1314–32–5	Thallic oxide
P113	1314–32–5	Thallium oxide Tl_2O_3
P114	12039–52–0	Thallium(I) selenite

P115	7446–18–6	Thallium(I) sulfate
P109	3689–24–5	Thiodiphosphoric acid, tetraethyl ester
P045	39196–18–4	Thiofanox
P049	541–53–7	Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$
P014	108–98–5	Thiophenol
P116	79–19–6	Thiosemicarbazide
P026	5344–82–1	Thiourea, (2-chlorophenyl)-
P072	86–88–4	Thiourea, 1-naphthalenyl-
P093	103–85–5	Thiourea, phenyl-
P185	26419–73–8	Tirpate.
P123	8001–35–2	Toxaphene
P118	75–70–7	Trichloromethanethiol
P119	7803–55–6	Vanadic acid, ammonium salt
P120	1314–62–1	Vanadium oxide V_2O_5
P120	1314–62–1	Vanadium pentoxide
P084	4549–40–0	Vinylamine, N-methyl-N-nitroso-
P001	[1]81–81–2	Warfarin, & salts, when present at concentrations greater than 0.3%
P205	137–30–4	Zinc, bis(dimethylcarbamodithioato-S,S′)-,
P121	557–21–1	Zinc cyanide
P121	557–21–1	Zinc cyanide $Zn(CN)_2$
P122	1314–84–7	Zinc phosphide Zn_3P_2, when present at concentrations greater than 10% (R,T)
P205	137–30–4	Ziram.
P001	[1]81–81–2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%
P001	[1]81–81–2	Warfarin, & salts, when present at concentrations greater than 0.3%
P002	591–08–2	Acetamide, -(aminothioxomethyl)-
P002	591–08–2	1-Acetyl-2-thiourea
P003	107–02–8	Acrolein
P003	107–02–8	2-Propenal
P004	309–00–2	Aldrin
P004	309–00–2	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa-chloro-1,4,4a,5,8,8a,-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)-
P005	107–18–6	Allyl alcohol
P005	107–18–6	2-Propen-1-ol
P006	20859–73–8	Aluminum phosphide (R,T)
P007	2763–96–4	5-(Aminomethyl)-3-isoxazolol
P007	2763–96–4	3(2H)-Isoxazolone, 5-(aminomethyl)-
P008	504–24–5	4-Aminopyridine
P008	504–24–5	4-Pyridinamine
P009	131–74–8	Ammonium picrate (R)
P009	131–74–8	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P010	7778–39–4	Arsenic acid H_3AsO_4
P011	1303–28–2	Arsenic oxide As_2O_5

P011	1303–28–2	Arsenic pentoxide
P012	1327–53–3	Arsenic oxide As_2O_3
P012	1327–53–3	Arsenic trioxide
P013	542–62–1	Barium cyanide
P014	108–98–5	Benzenethiol
P014	108–98–5	Thiophenol
P015	7440–41–7	Beryllium powder
P016	542–88–1	Dichloromethyl ether
P016	542–88–1	Methane, oxybis[chloro-
P017	598–31–2	Bromoacetone
P017	598–31–2	2-Propanone, 1-bromo-
P018	357–57–3	Brucine
P018	357–57–3	Strychnidin-10-one, 2,3-dimethoxy-
P020	88–85–7	Dinoseb
P020	88–85–7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-
P021	592–01–8	Calcium cyanide
P021	592–01–8	Calcium cyanide $Ca(CN)_2$
P022	75–15–0	Carbon disulfide
P023	107–20–0	Acetaldehyde, chloro-
P023	107–20–0	Chloroacetaldehyde
P024	106–47–8	Benzenamine, 4-chloro-
P024	106–47–8	p-Chloroaniline
P026	5344–82–1	1-(o-Chlorophenyl)thiourea
P026	5344–82–1	Thiourea, (2-chlorophenyl)-
P027	542–76–7	3-Chloropropionitrile
P027	542–76–7	Propanenitrile, 3-chloro-
P028	100–44–7	Benzene, (chloromethyl)-
P028	100–44–7	Benzyl chloride
P029	544–92–3	Copper cyanide
P029	544–92–3	Copper cyanide Cu(CN)
P030		Cyanides (soluble cyanide salts), not otherwise specified
P031	460–19–5	Cyanogen
P031	460–19–5	Ethanedinitrile
P033	506–77–4	Cyanogen chloride
P033	506–77–4	Cyanogen chloride (CN)Cl
P034	131–89–5	2-Cyclohexyl-4,6-dinitrophenol
P034	131–89–5	Phenol, 2-cyclohexyl-4,6-dinitro-
P036	696–28–6	Arsonous dichloride, phenyl-
P036	696–28–6	Dichlorophenylarsine
P037	60–57–1	Dieldrin
P037	60–57–1	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)-

P038	692–42–2	Arsine, diethyl-
P038	692–42–2	Diethylarsine
P039	298–04–4	Disulfoton
P039	298–04–4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester
P040	297–97–2	O,O-Diethyl O-pyrazinyl phosphorothioate
P040	297–97–2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P041	311–45–5	Diethyl-p-nitrophenyl phosphate
P041	311–45–5	Phosphoric acid, diethyl 4-nitrophenyl ester
P042	51–43–4	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-
P042	51–43–4	Epinephrine
P043	55–91–4	Diisopropylfluorophosphate (DFP)
P043	55–91–4	Phosphorofluoridic acid, bis(1-methylethyl) ester
P044	60–51–5	Dimethoate
P044	60–51–5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methyl amino)-2-oxoethyl] ester
P045	39196–18–4	2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[(methylamino)carbonyl] oxime
P045	39196–18–4	Thiofanox
P046	122–09–8	Benzeneethanamine, alpha,alpha-dimethyl-
P046	122–09–8	alpha,alpha-Dimethylphenethylamine
P047	[1]534–52–1	4,6-Dinitro-o-cresol, & salts
P047	[1]534–52–1	Phenol, 2-methyl-4,6-dinitro-, & salts
P048	51–28–5	2,4-Dinitrophenol
P048	51–28–5	Phenol, 2,4-dinitro-
P049	541–53–7	Dithiobiuret
P049	541–53–7	Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$
P050	115–29–7	Endosulfan
P050	115–29–7	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide
P051	[1]72–20–8	2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta, 7aalpha)-, & metabolites
P051	72–20–8	Endrin
P051	72–20–8	Endrin, & metabolites
P054	151–56–4	Aziridine
P054	151–56–4	Ethyleneimine
P056	7782–41–4	Fluorine
P057	640–19–7	Acetamide, 2-fluoro-
P057	640–19–7	Fluoroacetamide
P058	62–74–8	Acetic acid, fluoro-, sodium salt
P058	62–74–8	Fluoroacetic acid, sodium salt
P059	76–44–8	Heptachlor
P059	76–44–8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-
P060	465–73–6	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa-chloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5beta,8beta,8abeta)-
P060	465–73–6	Isodrin

P062	757–58–4	Hexaethyl tetraphosphate
P062	757–58–4	Tetraphosphoric acid, hexaethyl ester
P063	74–90–8	Hydrocyanic acid
P063	74–90–8	Hydrogen cyanide
P064	624–83–9	Methane, isocyanato-
P064	624–83–9	Methyl isocyanate
P065	628–86–4	Fulminic acid, mercury(2+) salt (R,T)
P065	628–86–4	Mercury fulminate (R,T)
P066	16752–77–5	Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester
P066	16752–77–5	Methomyl
P067	75–55–8	Aziridine, 2-methyl-
P067	75–55–8	1,2-Propylenimine
P068	60–34–4	Hydrazine, methyl-
P068	60–34–4	Methyl hydrazine
P069	75–86–5	2-Methyllactonitrile
P069	75–86–5	Propanenitrile, 2-hydroxy-2-methyl-
P070	116–06–3	Aldicarb
P070	116–06–3	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime
P071	298–00–0	Methyl parathion
P071	298–00–0	Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl) ester
P072	86–88–4	alpha-Naphthylthiourea
P072	86–88–4	Thiourea, 1-naphthalenyl-
P073	13463–39–3	Nickel carbonyl
P073	13463–39–3	Nickel carbonyl $Ni(CO)_4$, (T-4)-
P074	557–19–7	Nickel cyanide
P074	557–19–7	Nickel cyanide $Ni(CN)_2$
P075	[1]54–11–5	Nicotine, & salts
P075	[1]54–11–5	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts
P076	10102–43–9	Nitric oxide
P076	10102–43–9	Nitrogen oxide NO
P077	100–01–6	Benzenamine, 4-nitro-
P077	100–01–6	p-Nitroaniline
P078	10102–44–0	Nitrogen dioxide
P078	10102–44–0	Nitrogen oxide NO_2
P081	55–63–0	Nitroglycerine (R)
P081	55–63–0	1,2,3-Propanetriol, trinitrate (R)
P082	62–75–9	Methanamine, -methyl-N-nitroso-
P082	62–75–9	N-Nitrosodimethylamine
P084	4549–40–0	N-Nitrosomethylvinylamine
P084	4549–40–0	Vinylamine, -methyl-N-nitroso-
P085	152–16–9	Diphosphoramide, octamethyl-
P085	152–16–9	Octamethylpyrophosphoramide
P087	20816–12–0	Osmium oxide OsO_4, (T-4)-

P087	20816–12–0	Osmium tetroxide
P088	145–73–3	Endothall
P088	145–73–3	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P089	56–38–2	Parathion
P089	56–38–2	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester
P092	62–38–4	Mercury, (acetato-O)phenyl-
P092	62–38–4	Phenylmercury acetate
P093	103–85–5	Phenylthiourea
P093	103–85–5	Thiourea, phenyl-
P094	298–02–2	Phorate
P094	298–02–2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester
P095	75–44–5	Carbonic dichloride
P095	75–44–5	Phosgene
P096	7803–51–2	Hydrogen phosphide
P096	7803–51–2	Phosphine
P097	52–85–7	Famphur
P097	52–85–7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester
P098	151–50–8	Potassium cyanide
P098	151–50–8	Potassium cyanide K(CN)
P099	506–61–6	Argentate(1-), bis(cyano-C)-, potassium
P099	506–61–6	Potassium silver cyanide
P101	107–12–0	Ethyl cyanide
P101	107–12–0	Propanenitrile
P102	107–19–7	Propargyl alcohol
P102	107–19–7	2-Propyn-1-ol
P103	630–10–4	Selenourea
P104	506–64–9	Silver cyanide
P104	506–64–9	Silver cyanide Ag(CN)
P105	26628–22–8	Sodium azide
P106	143–33–9	Sodium cyanide
P106	143–33–9	Sodium cyanide Na(CN)
P108	[1]157–24–9	Strychnidin-10-one, & salts
P108	[1]157–24–9	Strychnine, & salts
P109	3689–24–5	Tetraethyldithiopyrophosphate
P109	3689–24–5	Thiodiphosphoric acid, tetraethyl ester
P110	78–00–2	Plumbane, tetraethyl-
P110	78–00–2	Tetraethyl lead
P111	107–49–3	Diphosphoric acid, tetraethyl ester
P111	107–49–3	Tetraethyl pyrophosphate
P112	509–14–8	Methane, tetranitro-(R)
P112	509–14–8	Tetranitromethane (R)
P113	1314–32–5	Thallic oxide
P113	1314–32–5	Thallium oxide Tl_2O_3

P114	12039–52–0	Selenious acid, dithallium(1+) salt
P114	12039–52–0	Tetraethyldithiopyrophosphate
P115	7446–18–6	Thiodiphosphoric acid, tetraethyl ester
P115	7446–18–6	Plumbane, tetraethyl-
P116	79–19–6	Tetraethyl lead
P116	79–19–6	Thiosemicarbazide
P118	75–70–7	Methanethiol, trichloro-
P118	75–70–7	Trichloromethanethiol
P119	7803–55–6	Ammonium vanadate
P119	7803–55–6	Vanadic acid, ammonium salt
P120	1314–62–1	Vanadium oxide V_2O_5
P120	1314–62–1	Vanadium pentoxide
P121	557–21–1	Zinc cyanide
P121	557–21–1	Zinc cyanide $Zn(CN)_2$
P122	1314–84–7	Zinc phosphide Zn_3P_2, when present at concentrations greater than 10% (R,T)
P123	8001–35–2	Toxaphene
P127	1563–66–2	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate.
P127	1563–66–2	Carbofuran
P128	315–8–4	Mexacarbate
P128	315–18–4	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester)
P185	26419–73–8	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-[(methylamino)-carbonyl]oxime.
P185	26419–73–8	Tirpate
P188	57–64–7	Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo[2,3-b]indol-5-yl methylcarbamate ester (1:1)
P188	57–64–7	Physostigmine salicylate
P189	55285–14–8	Carbamic acid, [(dibutylamino)-thio]methyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester
P189	55285–14–8	Carbosulfan
P190	1129–41–5	Carbamic acid, methyl-, 3-methylphenyl ester
P190	1129–41–5	Metolcarb
P191	644–64–4	Carbamic acid, dimethyl-, 1-[(dimethyl-amino)carbonyl]-5-methyl-1H-pyrazol-3-yl ester
P191	644–64–4	Dimetilan
P192	119–38–0	Carbamic acid, dimethyl-, 3-methyl-1-(1-methylethyl)-1H-pyrazol-5-yl ester
P192	119–38–0	Isolan
P194	23135–22–0	Ethanimidthioic acid, 2-(dimethylamino)-N-[[(methylamino) carbonyl]oxy]-2-oxo-, methyl ester
P194	23135–22–0	Oxamyl
P196	15339–36–3	Manganese, bis(dimethylcarbamodithioato-S,S')-,
P196	15339–36–3	Manganese dimethyldithiocarbamate
P197	17702–57–7	Formparanate
P197	17702–57–7	Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[[(methylamino)carbonyl]oxy]phenyl]-

P198	23422–53–9	Formetanate hydrochloride
P198	23422–53–9	Methanimidamide, N,N-dimethyl-N'-[3-[[(methylamino)-carbonyl]oxy]phenyl]-monohydrochloride
P199	2032–65–7	Methiocarb
P199	2032–65–7	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate
P201	2631–37–0	Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate
P201	2631–37–0	Promecarb
P202	64–00–6	m-Cumenyl methylcarbamate
P202	64–00–6	3-Isopropylphenyl N-methylcarbamate
P202	64–00–6	Phenol, 3-(1-methylethyl)-, methyl carbamate
P203	1646–88–4	Aldicarb sulfone
P203	1646–88–4	Propanal, 2-methyl-2-(methyl-sulfonyl)-, O-[(methylamino)carbonyl] oxime
P204	57–47–6	Physostigmine
P204	57–47–6	Pyrrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)-
P205	137–30–4	Zinc, bis(dimethylcarbamodithioato-S,S')-,
P205	137–30–4	Ziram

[1]CAS Number given for parent compound only.

[*Comment:* For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), R (Reactivity), I (Ignitability) and C (Corrosivity). Absence of a letter indicates that the compound is only listed for toxicity. Wastes are first listed in alphabetical order by substance and then listed

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

ATTACHMENT 5

DISCARDED COMMERCIAL CHEMICAL PRODUCTS, OFF-SPECIFICATION SPECIES, CONTAINER RESIDUES AND SPILLS THEREOF (U-LIST)

40 CFR 261.33 Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof.

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded as described in §261.2(a)(2)(i), when they are mixed with waste oil or used oil or other material and applied to the land for dust suppression or road treatment, when they are otherwise applied to the land in lieu of their original intended use or when they are contained in products that are applied to the land in lieu of their original intended use, or when, in lieu of their original intended use, they are produced for use as (or as a component of) a fuel, distributed for use as a fuel, or burned as a fuel.

[*Comment:* For the convenience of the regulated community the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), and R (Reactivity). Absence of a letter indicates that the compound only is listed for acute toxicity. Wastes are first listed in alphabetical order by substance and then listed again in numerical order by Hazardous Waste Number.]

These wastes and their corresponding EPA Hazardous Waste Numbers are:

Hazardous waste No.	Chemical abstracts No.	Substance
U394	30558–43–1	A2213.
U001	75–07–0	Acetaldehyde (I)
U034	75–87–6	Acetaldehyde, trichloro-
U187	62–44–2	Acetamide, N-(4-ethoxyphenyl)-
U005	53–96–3	Acetamide, N-9H-fluoren-2-yl-
U240	[1]94–75–7	Acetic acid, (2,4-dichlorophenoxy)-, salts & esters
U112	141–78–6	Acetic acid ethyl ester (I)
U144	301–04–2	Acetic acid, lead(2+) salt
U214	563–68–8	Acetic acid, thallium(1+) salt
see F027	93–76–5	Acetic acid, (2,4,5-trichlorophenoxy)-
U002	67–64–1	Acetone (I)
U003	75–05–8	Acetonitrile (I,T)
U004	98–86–2	Acetophenone
U005	53–96–3	2-Acetylaminofluorene
U006	75–36–5	Acetyl chloride (C,R,T)
U007	79–06–1	Acrylamide
U008	79–10–7	Acrylic acid (I)
U009	107–13–1	Acrylonitrile
U011	61–82–5	Amitrole
U012	62–53–3	Aniline (I,T)
U136	75–60–5	Arsinic acid, dimethyl-
U014	492–80–8	Auramine

U015	115–02–6	Azaserine
U010	50–07–7	Azirino[2′,3′:3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha, 8beta,8aalpha,8balpha)]-
U280	101–27–9	Barban.
U278	22781–23–3	Bendiocarb.
U364	22961–82–6	Bendiocarb phenol.
U271	17804–35–2	Benomyl.
U157	56–49–5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
U016	225–51–4	Benz[c]acridine
U017	98–87–3	Benzal chloride
U192	23950–58–5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-
U018	56–55–3	Benz[a]anthracene
U094	57–97–6	Benz[a]anthracene, 7,12-dimethyl-
U012	62–53–3	Benzenamine (I,T)
U014	492–80–8	Benzenamine, 4,4′-carbonimidoylbis[N,N-dimethyl-
U049	3165–93–3	Benzenamine, 4-chloro-2-methyl-, hydrochloride
U093	60–11–7	Benzenamine, N,N-dimethyl-4-(phenylazo)-
U328	95–53–4	Benzenamine, 2-methyl-
U353	106–49–0	Benzenamine, 4-methyl-
U158	101–14–4	Benzenamine, 4,4′-methylenebis[2-chloro-
U222	636–21–5	Benzenamine, 2-methyl-, hydrochloride
U181	99–55–8	Benzenamine, 2-methyl-5-nitro-
U019	71–43–2	Benzene (I,T)
U038	510–15–6	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester
U030	101–55–3	Benzene, 1-bromo-4-phenoxy-
U035	305–03–3	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-
U037	108–90–7	Benzene, chloro-
U221	25376–45–8	Benzenediamine, ar-methyl-
U028	117–81–7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester
U069	84–74–2	1,2-Benzenedicarboxylic acid, dibutyl ester
U088	84–66–2	1,2-Benzenedicarboxylic acid, diethyl ester
U102	131–11–3	1,2-Benzenedicarboxylic acid, dimethyl ester
U107	117–84–0	1,2-Benzenedicarboxylic acid, dioctyl ester
U070	95–50–1	Benzene, 1,2-dichloro-
U071	541–73–1	Benzene, 1,3-dichloro-
U072	106–46–7	Benzene, 1,4-dichloro-
U060	72–54–8	Benzene, 1,1′-(2,2-dichloroethylidene)bis[4-chloro-
U017	98–87–3	Benzene, (dichloromethyl)-
U223	26471–62–5	Benzene, 1,3-diisocyanatomethyl- (R,T)
U239	1330–20–7	Benzene, dimethyl- (I)
U201	108–46–3	1,3-Benzenediol
U127	118–74–1	Benzene, hexachloro-

U056	110–82–7	Benzene, hexahydro- (I)
U220	108–88–3	Benzene, methyl-
U105	121–14–2	Benzene, 1-methyl-2,4-dinitro-
U106	606–20–2	Benzene, 2-methyl-1,3-dinitro-
U055	98–82–8	Benzene, (1-methylethyl)- (I)
U169	98–95–3	Benzene, nitro-
U183	608–93–5	Benzene, pentachloro-
U185	82–68–8	Benzene, pentachloronitro-
U020	98–09–9	Benzenesulfonic acid chloride (C,R)
U020	98–09–9	Benzenesulfonyl chloride (C,R)
U207	95–94–3	Benzene, 1,2,4,5-tetrachloro-
U061	50–29–3	Benzene, 1,1′-(2,2,2-trichloroethylidene)bis[4-chloro-
U247	72–43–5	Benzene, 1,1′-(2,2,2-trichloroethylidene)bis[4- methoxy-
U023	98–07–7	Benzene, (trichloromethyl)-
U234	99–35–4	Benzene, 1,3,5-trinitro-
U021	92–87–5	Benzidine
U278	22781–23–3	1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate.
U364	22961–82–6	1,3-Benzodioxol-4-ol, 2,2-dimethyl-,
U203	94–59–7	1,3-Benzodioxole, 5-(2-propenyl)-
U141	120–58–1	1,3-Benzodioxole, 5-(1-propenyl)-
U367	1563–38–8	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-
U090	94–58–6	1,3-Benzodioxole, 5-propyl-
U064	189–55–9	Benzo[rst]pentaphene
U248	[1]81–81–2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, & salts, when present at concentrations of 0.3% or less
U022	50–32–8	Benzo[a]pyrene
U197	106–51–4	p-Benzoquinone
U023	98–07–7	Benzotrichloride (C,R,T)
U085	1464–53–5	2,2′-Bioxirane
U021	92–87–5	[1,1′-Biphenyl]-4,4′-diamine
U073	91–94–1	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dichloro-
U091	119–90–4	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dimethoxy-
U095	119–93–7	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dimethyl-
U225	75–25–2	Bromoform
U030	101–55–3	4-Bromophenyl phenyl ether
U128	87–68–3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U172	924–16–3	1-Butanamine, N-butyl-N-nitroso-
U031	71–36–3	1-Butanol (I)
U159	78–93–3	2-Butanone (I,T)
U160	1338–23–4	2-Butanone, peroxide (R,T)
U053	4170–30–3	2-Butenal
U074	764–41–0	2-Butene, 1,4-dichloro- (I,T)
U143	303–34–4	2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy-

		2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*),7aalpha]]-
U031	71–36–3	n-Butyl alcohol (I)
U136	75–60–5	Cacodylic acid
U032	13765–19–0	Calcium chromate
U372	10605–21–7	Carbamic acid, 1H-benzimidazol-2-yl, methyl ester.
U271	17804–35–2	Carbamic acid, [1-[(butylamino)carbonyl]-1H-benzimidazol-2-yl]-, methyl ester.
U280	101–27–9	Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butynyl ester.
U238	51–79–6	Carbamic acid, ethyl ester
U178	615–53–2	Carbamic acid, methylnitroso-, ethyl ester
U373	122–42–9	Carbamic acid, phenyl-, 1-methylethyl ester.
U409	23564–05–8	Carbamic acid, [1,2-phenylenebis (iminocarbonothioyl)]bis-, dimethyl ester.
U097	79–44–7	Carbamic chloride, dimethyl-
U389	2303–17–5	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester.
U387	52888–80–9	Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester.
U114	[1]111–54–6	Carbamodithioic acid, 1,2-ethanediylbis-, salts & esters
U062	2303–16–4	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester
U279	63–25–2	Carbaryl.
U372	10605–21–7	Carbendazim.
U367	1563–38–8	Carbofuran phenol.
U215	6533–73–9	Carbonic acid, dithallium(1+) salt
U033	353–50–4	Carbonic difluoride
U156	79–22–1	Carbonochloridic acid, methyl ester (I,T)
U033	353–50–4	Carbon oxyfluoride (R,T)
U211	56–23–5	Carbon tetrachloride
U034	75–87–6	Chloral
U035	305–03–3	Chlorambucil
U036	57–74–9	Chlordane, alpha & gamma isomers
U026	494–03–1	Chlornaphazin
U037	108–90–7	Chlorobenzene
U038	510–15–6	Chlorobenzilate
U039	59–50–7	p-Chloro-m-cresol
U042	110–75–8	2-Chloroethyl vinyl ether
U044	67–66–3	Chloroform
U046	107–30–2	Chloromethyl methyl ether
U047	91–58–7	beta-Chloronaphthalene
U048	95–57–8	o-Chlorophenol
U049	3165–93–3	4-Chloro-o-toluidine, hydrochloride
U032	13765–19–0	Chromic acid H_2CrO_4, calcium salt
U050	218–01–9	Chrysene

U051		Creosote
U052	1319–77–3	Cresol (Cresylic acid)
U053	4170–30–3	Crotonaldehyde
U055	98–82–8	Cumene (I)
U246	506–68–3	Cyanogen bromide (CN)Br
U197	106–51–4	2,5-Cyclohexadiene-1,4-dione
U056	110–82–7	Cyclohexane (I)
U129	58–89–9	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)-
U057	108–94–1	Cyclohexanone (I)
U130	77–47–4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
U058	50–18–0	Cyclophosphamide
U240	[1]94–75–7	2,4-D, salts & esters
U059	20830–81–3	Daunomycin
U060	72–54–8	DDD
U061	50–29–3	DDT
U062	2303–16–4	Diallate
U063	53–70–3	Dibenz[a,h]anthracene
U064	189–55–9	Dibenzo[a,i]pyrene
U066	96–12–8	1,2-Dibromo-3-chloropropane
U069	84–74–2	Dibutyl phthalate
U070	95–50–1	o-Dichlorobenzene
U071	541–73–1	m-Dichlorobenzene
U072	106–46–7	p-Dichlorobenzene
U073	91–94–1	3,3′-Dichlorobenzidine
U074	764–41–0	1,4-Dichloro-2-butene (I,T)
U075	75–71–8	Dichlorodifluoromethane
U078	75–35–4	1,1-Dichloroethylene
U079	156–60–5	1,2-Dichloroethylene
U025	111–44–4	Dichloroethyl ether
U027	108–60–1	Dichloroisopropyl ether
U024	111–91–1	Dichloromethoxy ethane
U081	120–83–2	2,4-Dichlorophenol
U082	87–65–0	2,6-Dichlorophenol
U084	542–75–6	1,3-Dichloropropene
U085	1464–53–5	1,2:3,4-Diepoxybutane (I,T)
U108	123–91–1	1,4-Diethyleneoxide
U028	117–81–7	Diethylhexyl phthalate
U395	5952–26–1	Diethylene glycol, dicarbamate.
U086	1615–80–1	N,N′-Diethylhydrazine
U087	3288–58–2	O,O-Diethyl S-methyl dithiophosphate
U088	84–66–2	Diethyl phthalate
U089	56–53–1	Diethylstilbesterol

U090	94–58–6	Dihydrosafrole
U091	119–90–4	3,3′-Dimethoxybenzidine
U092	124–40–3	Dimethylamine (I)
U093	60–11–7	p-Dimethylaminoazobenzene
U094	57–97–6	7,12-Dimethylbenz[a]anthracene
U095	119–93–7	3,3′-Dimethylbenzidine
U096	80–15–9	alpha,alpha-Dimethylbenzylhydroperoxide (R)
U097	79–44–7	Dimethylcarbamoyl chloride
U098	57–14–7	1,1-Dimethylhydrazine
U099	540–73–8	1,2-Dimethylhydrazine
U101	105–67–9	2,4-Dimethylphenol
U102	131–11–3	Dimethyl phthalate
U103	77–78–1	Dimethyl sulfate
U105	121–14–2	2,4-Dinitrotoluene
U106	606–20–2	2,6-Dinitrotoluene
U107	117–84–0	Di-n-octyl phthalate
U108	123–91–1	1,4-Dioxane
U109	122–66–7	1,2-Diphenylhydrazine
U110	142–84–7	Dipropylamine (I)
U111	621–64–7	Di-n-propylnitrosamine
U041	106–89–8	Epichlorohydrin
U001	75–07–0	Ethanal (I)
U404	121–44–8	Ethanamine, N,N-diethyl-
U174	55–18–5	Ethanamine, N-ethyl-N-nitroso-
U155	91–80–5	1,2-Ethanediamine, N,N-dimethyl-N′-2-pyridinyl-N′-(2-thienylmethyl)-
U067	106–93–4	Ethane, 1,2-dibromo-
U076	75–34–3	Ethane, 1,1-dichloro-
U077	107–06–2	Ethane, 1,2-dichloro-
U131	67–72–1	Ethane, hexachloro-
U024	111–91–1	Ethane, 1,1′-[methylenebis(oxy)]bis[2-chloro-
U117	60–29–7	Ethane, 1,1′-oxybis-(I)
U025	111–44–4	Ethane, 1,1′-oxybis[2-chloro-
U184	76–01–7	Ethane, pentachloro-
U208	630–20–6	Ethane, 1,1,1,2-tetrachloro-
U209	79–34–5	Ethane, 1,1,2,2-tetrachloro-
U218	62–55–5	Ethanethioamide
U226	71–55–6	Ethane, 1,1,1-trichloro-
U227	79–00–5	Ethane, 1,1,2-trichloro-
U410	59669–26–0	Ethanimidothioic acid, N,N′- [thiobis[(methylimino)carbonyloxy]]bis-, dimethyl ester
U394	30558–43–1	Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester.
U359	110–80–5	Ethanol, 2-ethoxy-
U173	1116–54–7	Ethanol, 2,2′-(nitrosoimino)bis-

U395	5952–26–1	Ethanol, 2,2′-oxybis-, dicarbamate.
U004	98–86–2	Ethanone, 1-phenyl-
U043	75–01–4	Ethene, chloro-
U042	110–75–8	Ethene, (2-chloroethoxy)-
U078	75–35–4	Ethene, 1,1-dichloro-
U079	156–60–5	Ethene, 1,2-dichloro-, (E)-
U210	127–18–4	Ethene, tetrachloro-
U228	79–01–6	Ethene, trichloro-
U112	141–78–6	Ethyl acetate (I)
U113	140–88–5	Ethyl acrylate (I)
U238	51–79–6	Ethyl carbamate (urethane)
U117	60–29–7	Ethyl ether (I)
U114	[1]111–54–6	Ethylenebisdithiocarbamic acid, salts & esters
U067	106–93–4	Ethylene dibromide
U077	107–06–2	Ethylene dichloride
U359	110–80–5	Ethylene glycol monoethyl ether
U115	75–21–8	Ethylene oxide (I,T)
U116	96–45–7	Ethylenethiourea
U076	75–34–3	Ethylidene dichloride
U118	97–63–2	Ethyl methacrylate
U119	62–50–0	Ethyl methanesulfonate
U120	206–44–0	Fluoranthene
U122	50–00–0	Formaldehyde
U123	64–18–6	Formic acid (C,T)
U124	110–00–9	Furan (I)
U125	98–01–1	2-Furancarboxaldehyde (I)
U147	108–31–6	2,5-Furandione
U213	109–99–9	Furan, tetrahydro-(I)
U125	98–01–1	Furfural (I)
U124	110–00–9	Furfuran (I)
U206	18883–66–4	Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-, D-
U206	18883–66–4	D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)-carbonyl]amino]-
U126	765–34–4	Glycidylaldehyde
U163	70–25–7	Guanidine, N-methyl-N′-nitro-N-nitroso-
U127	118–74–1	Hexachlorobenzene
U128	87–68–3	Hexachlorobutadiene
U130	77–47–4	Hexachlorocyclopentadiene
U131	67–72–1	Hexachloroethane
U132	70–30–4	Hexachlorophene
U243	1888–71–7	Hexachloropropene
U133	302–01–2	Hydrazine (R,T)
U086	1615–80–1	Hydrazine, 1,2-diethyl-

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

U154	67–56–1	Methanol (I)
U155	91–80–5	Methapyrilene
U142	143–50–0	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-
U247	72–43–5	Methoxychlor
U154	67–56–1	Methyl alcohol (I)
U029	74–83–9	Methyl bromide
U186	504–60–9	1-Methylbutadiene (I)
U045	74–87–3	Methyl chloride (I,T)
U156	79–22–1	Methyl chlorocarbonate (I,T)
U226	71–55–6	Methyl chloroform
U157	56–49–5	3-Methylcholanthrene
U158	101–14–4	4,4′-Methylenebis(2-chloroaniline)
U068	74–95–3	Methylene bromide
U080	75–09–2	Methylene chloride
U159	78–93–3	Methyl ethyl ketone (MEK) (I,T)
U160	1338–23–4	Methyl ethyl ketone peroxide (R,T)
U138	74–88–4	Methyl iodide
U161	108–10–1	Methyl isobutyl ketone (I)
U162	80–62–6	Methyl methacrylate (I,T)
U161	108–10–1	4-Methyl-2-pentanone (I)
U164	56–04–2	Methylthiouracil
U010	50–07–7	Mitomycin C
U059	20830–81–3	5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-
U167	134–32–7	1-Naphthalenamine
U168	91–59–8	2-Naphthalenamine
U026	494–03–1	Naphthalenamine, N,N′-bis(2-chloroethyl)-
U165	91–20–3	Naphthalene
U047	91–58–7	Naphthalene, 2-chloro-
U166	130–15–4	1,4-Naphthalenedione
U236	72–57–1	2,7-Naphthalenedisulfonic acid, 3,3′-[(3,3′-dimethyl[1,1′-biphenyl]-4,4′-diyl)bis(azo)bis[5-amino-4-hydroxy]-, tetrasodium salt
U279	63–25–2	1-Naphthalenol, methylcarbamate.
U166	130–15–4	1,4-Naphthoquinone
U167	134–32–7	alpha-Naphthylamine
U168	91–59–8	beta-Naphthylamine
U217	10102–45–1	Nitric acid, thallium(1+) salt
U169	98–95–3	Nitrobenzene (I,T)
U170	100–02–7	p-Nitrophenol
U171	79–46–9	2-Nitropropane (I,T)
U172	924–16–3	N-Nitrosodi-n-butylamine

U173	1116–54–7	N-Nitrosodiethanolamine
U174	55–18–5	N-Nitrosodiethylamine
U176	759–73–9	N-Nitroso-N-ethylurea
U177	684–93–5	N-Nitroso-N-methylurea
U178	615–53–2	N-Nitroso-N-methylurethane
U179	100–75–4	N-Nitrosopiperidine
U180	930–55–2	N-Nitrosopyrrolidine
U181	99–55–8	5-Nitro-o-toluidine
U193	1120–71–4	1,2-Oxathiolane, 2,2-dioxide
U058	50–18–0	2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide
U115	75–21–8	Oxirane (I,T)
U126	765–34–4	Oxiranecarboxyaldehyde
U041	106–89–8	Oxirane, (chloromethyl)-
U182	123–63–7	Paraldehyde
U183	608–93–5	Pentachlorobenzene
U184	76–01–7	Pentachloroethane
U185	82–68–8	Pentachloronitrobenzene (PCNB)
See F027	87–86–5	Pentachlorophenol
U161	108–10–1	Pentanol, 4-methyl-
U186	504–60–9	1,3-Pentadiene (I)
U187	62–44–2	Phenacetin
U188	108–95–2	Phenol
U048	95–57–8	Phenol, 2-chloro-
U039	59–50–7	Phenol, 4-chloro-3-methyl-
U081	120–83–2	Phenol, 2,4-dichloro-
U082	87–65–0	Phenol, 2,6-dichloro-
U089	56–53–1	Phenol, 4,4′-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-
U101	105–67–9	Phenol, 2,4-dimethyl-
U052	1319–77–3	Phenol, methyl-
U132	70–30–4	Phenol, 2,2′-methylenebis[3,4,6-trichloro-
U411	114–26–1	Phenol, 2-(1-methylethoxy)-, methylcarbamate.
U170	100–02–7	Phenol, 4-nitro-
See F027	87–86–5	Phenol, pentachloro-
See F027	58–90–2	Phenol, 2,3,4,6-tetrachloro-
See F027	95–95–4	Phenol, 2,4,5-trichloro-
See F027	88–06–2	Phenol, 2,4,6-trichloro-
U150	148–82–3	L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-
U145	7446–27–7	Phosphoric acid, lead(2+) salt (2:3)
U087	3288–58–2	Phosphorodithioic acid, O,O-diethyl S-methyl ester
U189	1314–80–3	Phosphorus sulfide (R)
U190	85–44–9	Phthalic anhydride
U191	109–06–8	2-Picoline

U179	100–75–4	Piperidine, 1-nitroso-
U192	23950–58–5	Pronamide
U194	107–10–8	1-Propanamine (I,T)
U111	621–64–7	1-Propanamine, N-nitroso-N-propyl-
U110	142–84–7	1-Propanamine, N-propyl- (I)
U066	96–12–8	Propane, 1,2-dibromo-3-chloro-
U083	78–87–5	Propane, 1,2-dichloro-
U149	109–77–3	Propanedinitrile
U171	79–46–9	Propane, 2-nitro- (I,T)
U027	108–60–1	Propane, 2,2′-oxybis[2-chloro-
U193	1120–71–4	1,3-Propane sultone
See F027	93–72–1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-
U235	126–72–7	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U140	78–83–1	1-Propanol, 2-methyl- (I,T)
U002	67–64–1	2-Propanone (I)
U007	79–06–1	2-Propenamide
U084	542–75–6	1-Propene, 1,3-dichloro-
U243	1888–71–7	1-Propene, 1,1,2,3,3,3-hexachloro-
U009	107–13–1	2-Propenenitrile
U152	126–98–7	2-Propenenitrile, 2-methyl- (I,T)
U008	79–10–7	2-Propenoic acid (I)
U113	140–88–5	2-Propenoic acid, ethyl ester (I)
U118	97–63–2	2-Propenoic acid, 2-methyl-, ethyl ester
U162	80–62–6	2-Propenoic acid, 2-methyl-, methyl ester (I,T)
U373	122–42–9	Propham.
U411	114–26–1	Propoxur.
U387	52888–80–9	Prosulfocarb.
U194	107–10–8	n-Propylamine (I,T)
U083	78–87–5	Propylene dichloride
U148	123–33–1	3,6-Pyridazinedione, 1,2-dihydro-
U196	110–86–1	Pyridine
U191	109–06–8	Pyridine, 2-methyl-
U237	66–75–1	2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-
U164	56–04–2	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
U180	930–55–2	Pyrrolidine, 1-nitroso-
U200	50–55–5	Reserpine
U201	108–46–3	Resorcinol
U203	94–59–7	Safrole
U204	7783–00–8	Selenious acid
U204	7783–00–8	Selenium dioxide
U205	7488–56–4	Selenium sulfide
U205	7488–56–4	Selenium sulfide SeS_2(R,T)

U015	115–02–6	L-Serine, diazoacetate (ester)
See F027	93–72–1	Silvex (2,4,5-TP)
U206	18883–66–4	Streptozotocin
U103	77–78–1	Sulfuric acid, dimethyl ester
U189	1314–80–3	Sulfur phosphide (R)
See F027	93–76–5	2,4,5-T
U207	95–94–3	1,2,4,5-Tetrachlorobenzene
U208	630–20–6	1,1,1,2-Tetrachloroethane
U209	79–34–5	1,1,2,2-Tetrachloroethane
U210	127–18–4	Tetrachloroethylene
See F027	58–90–2	2,3,4,6-Tetrachlorophenol
U213	109–99–9	Tetrahydrofuran (I)
U214	563–68–8	Thallium(I) acetate
U215	6533–73–9	Thallium(I) carbonate
U216	7791–12–0	Thallium(I) chloride
U216	7791–12–0	thallium chloride TlCl
U217	10102–45–1	Thallium(I) nitrate
U218	62–55–5	Thioacetamide
U410	59669–26–0	Thiodicarb.
U153	74–93–1	Thiomethanol (I,T)
U244	137–26–8	Thioperoxydicarbonic diamide $[(H_2N)C(S)]_2S_2$, tetramethyl-
U409	23564–05–8	Thiophanate-methyl.
U219	62–56–6	Thiourea
U244	137–26–8	Thiram
U220	108–88–3	Toluene
U221	25376–45–8	Toluenediamine
U223	26471–62–5	Toluene diisocyanate (R,T)
U328	95–53–4	o-Toluidine
U353	106–49–0	p-Toluidine
U222	636–21–5	o-Toluidine hydrochloride
U389	2303–17–5	Triallate.
U011	61–82–5	1H-1,2,4-Triazol-3-amine
U226	71–55–6	1,1,1-Trichloroethane
U227	79–00–5	1,1,2-Trichloroethane
U228	79–01–6	Trichloroethylene
U121	75–69–4	Trichloromonofluoromethane
See F027	95–95–4	2,4,5-Trichlorophenol
See F027	88–06–2	2,4,6-Trichlorophenol
U404	121–44–8	Triethylamine.
U234	99–35–4	1,3,5-Trinitrobenzene (R,T)
U182	123–63–7	1,3,5-Trioxane, 2,4,6-trimethyl-
U235	126–72–7	Tris(2,3-dibromopropyl) phosphate
U236	72–57–1	Trypan blue

U237	66–75–1	Uracil mustard
U176	759–73–9	Urea, N-ethyl-N-nitroso-
U177	684–93–5	Urea, N-methyl-N-nitroso-
U043	75–01–4	Vinyl chloride
U248	[1]81–81–2	Warfarin, & salts, when present at concentrations of 0.3% or less
U239	1330–20–7	Xylene (I)
U200	50–55–5	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha,18beta,20alpha)-
U249	1314–84–7	Zinc phosphide Zn_3P_2, when present at concentrations of 10% or less
U001	75–07–0	Acetaldehyde (I)
U001	75–07–0	Ethanal (I)
U002	67–64–1	Acetone (I)
U002	67–64–1	2-Propanone (I)
U003	75–05–8	Acetonitrile (I,T)
U004	98–86–2	Acetophenone
U004	98–86–2	Ethanone, 1-phenyl-
U005	53–96–3	Acetamide, -9H-fluoren-2-yl-
U005	53–96–3	2-Acetylaminofluorene
U006	75–36–5	Acetyl chloride (C,R,T)
U007	79–06–1	Acrylamide
U007	79–06–1	2-Propenamide
U008	79–10–7	Acrylic acid (I)
U008	79–10–7	2-Propenoic acid (I)
U009	107–13–1	Acrylonitrile
U009	107–13–1	2-Propenenitrile
U010	50–07–7	Azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha, 8beta,8aalpha,8balpha)]-
U010	50–07–7	Mitomycin C
U011	61–82–5	Amitrole
U011	61–82–5	1H-1,2,4-Triazol-3-amine
U012	62–53–3	Aniline (I,T)
U012	62–53–3	Benzenamine (I,T)
U014	492–80–8	Auramine
U014	492–80–8	Benzenamine, 4,4'-carbonimidoylbis[N,N-dimethyl-
U015	115–02–6	Azaserine
U015	115–02–6	L-Serine, diazoacetate (ester)
U016	225–51–4	Benz[c]acridine
U017	98–87–3	Benzal chloride
U017	98–87–3	Benzene, (dichloromethyl)-
U018	56–55–3	Benz[a]anthracene
U019	71–43–2	Benzene (I,T)
U020	98–09–9	Benzenesulfonic acid chloride (C,R)

U020	98–09–9	Benzenesulfonyl chloride (C,R)
U021	92–87–5	Benzidine
U021	92–87–5	[1,1'-Biphenyl]-4,4'-diamine
U022	50–32–8	Benzo[a]pyrene
U023	98–07–7	Benzene, (trichloromethyl)-
U023	98–07–7	Benzotrichloride (C,R,T)
U024	111–91–1	Dichloromethoxy ethane
U024	111–91–1	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-
U025	111–44–4	Dichloroethyl ether
U025	111–44–4	Ethane, 1,1'-oxybis[2-chloro-
U026	494–03–1	Chlornaphazin
U026	494–03–1	Naphthalenamine, N,N'-bis(2-chloroethyl)-
U027	108–60–1	Dichloroisopropyl ether
U027	108–60–1	Propane, 2,2'-oxybis[2-chloro-
U028	117–81–7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester
U028	117–81–7	Diethylhexyl phthalate
U029	74–83–9	Methane, bromo-
U029	74–83–9	Methyl bromide
U030	101–55–3	Benzene, 1-bromo-4-phenoxy-
U030	101–55–3	4-Bromophenyl phenyl ether
U031	71–36–3	1-Butanol (I)
U031	71–36–3	n-Butyl alcohol (I)
U032	13765–19–0	Calcium chromate
U032	13765–19–0	Chromic acid H_2CrO_4, calcium salt
U033	353–50–4	Carbonic difluoride
U033	353–50–4	Carbon oxyfluoride (R,T)
U034	75–87–6	Acetaldehyde, trichloro-
U034	75–87–6	Chloral
U035	305–03–3	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-
U035	305–03–3	Chlorambucil
U036	57–74–9	Chlordane, alpha & gamma isomers
U036	57–74–9	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-
U037	108–90–7	Benzene, chloro-
U037	108–90–7	Chlorobenzene
U038	510–15–6	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester
U038	510–15–6	Chlorobenzilate
U039	59–50–7	p-Chloro-m-cresol
U039	59–50–7	Phenol, 4-chloro-3-methyl-
U041	106–89–8	Epichlorohydrin
U041	106–89–8	Oxirane, (chloromethyl)-
U042	110–75–8	2-Chloroethyl vinyl ether

U042	110–75–8	Ethene, (2-chloroethoxy)-
U043	75–01–4	Ethene, chloro-
U043	75–01–4	Vinyl chloride
U044	67–66–3	Chloroform
U044	67–66–3	Methane, trichloro-
U045	74–87–3	Methane, chloro- (I,T)
U045	74–87–3	Methyl chloride (I,T)
U046	107–30–2	Chloromethyl methyl ether
U046	107–30–2	Methane, chloromethoxy-
U047	91–58–7	beta-Chloronaphthalene
U047	91–58–7	Naphthalene, 2-chloro-
U048	95–57–8	o-Chlorophenol
U048	95–57–8	Phenol, 2-chloro-
U049	3165–93–3	Benzenamine, 4-chloro-2-methyl-, hydrochloride
U049	3165–93–3	4-Chloro-o-toluidine, hydrochloride
U050	218–01–9	Chrysene
U051		Creosote
U052	1319–77–3	Cresol (Cresylic acid)
U052	1319–77–3	Phenol, methyl-
U053	4170–30–3	2-Butenal
U053	4170–30–3	Crotonaldehyde
U055	98–82–8	Benzene, (1-methylethyl)-(I)
U055	98–82–8	Cumene (I)
U056	110–82–7	Benzene, hexahydro-(I)
U056	110–82–7	Cyclohexane (I)
U057	108–94–1	Cyclohexanone (I)
U058	50–18–0	Cyclophosphamide
U058	50–18–0	2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide
U059	20830–81–3	Daunomycin
U059	20830–81–3	5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-
U060	72–54–8	Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro-
U060	72–54–8	DDD
U061	50–29–3	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro-
U061	50–29–3	DDT
U062	2303–16–4	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-di chloro-2-propenyl) ester
U062	2303–16–4	Diallate
U063	53–70–3	Dibenz[a,h]anthracene
U064	189–55–9	Benzo[rst]pentaphene
U064	189–55–9	Dibenzo[a,i]pyrene
U066	96–12–8	1,2-Dibromo-3-chloropropane
U066	96–12–8	Propane, 1,2-dibromo-3-chloro-

U067	106–93–4	Ethane, 1,2-dibromo-
U067	106–93–4	Ethylene dibromide
U068	74–95–3	Methane, dibromo-
U068	74–95–3	Methylene bromide
U069	84–74–2	1,2-Benzenedicarboxylic acid, dibutyl ester
U069	84–74–2	Dibutyl phthalate
U070	95–50–1	Benzene, 1,2-dichloro-
U070	95–50–1	o-Dichlorobenzene
U071	541–73–1	Benzene, 1,3-dichloro-
U071	541–73–1	m-Dichlorobenzene
U072	106–46–7	Benzene, 1,4-dichloro-
U072	106–46–7	p-Dichlorobenzene
U073	91–94–1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-
U073	91–94–1	3,3'-Dichlorobenzidine
U074	764–41–0	2-Butene, 1,4-dichloro-(I,T)
U074	764–41–0	1,4-Dichloro-2-butene (I,T)
U075	75–71–8	Dichlorodifluoromethane
U075	75–71–8	Methane, dichlorodifluoro-
U076	75–34–3	Ethane, 1,1-dichloro-
U076	75–34–3	Ethylidene dichloride
U077	107–06–2	Ethane, 1,2-dichloro-
U077	107–06–2	Ethylene dichloride
U078	75–35–4	1,1-Dichloroethylene
U078	75–35–4	Ethene, 1,1-dichloro-
U079	156–60–5	1,2-Dichloroethylene
U079	156–60–5	Ethene, 1,2-dichloro-, (E)-
U080	75–09–2	Methane, dichloro-
U080	75–09–2	Methylene chloride
U081	120–83–2	2,4-Dichlorophenol
U081	120–83–2	Phenol, 2,4-dichloro-
U082	87–65–0	2,6-Dichlorophenol
U082	87–65–0	Phenol, 2,6-dichloro-
U083	78–87–5	Propane, 1,2-dichloro-
U083	78–87–5	Propylene dichloride
U084	542–75–6	1,3-Dichloropropene
U084	542–75–6	1-Propene, 1,3-dichloro-
U085	1464–53–5	2,2'-Bioxirane
U085	1464–53–5	1,2:3,4-Diepoxybutane (I,T)
U086	1615–80–1	N,N'-Diethylhydrazine
U086	1615–80–1	Hydrazine, 1,2-diethyl-
U087	3288–58–2	O,O-Diethyl S-methyl dithiophosphate
U087	3288–58–2	Phosphorodithioic acid, O,O-diethyl S-methyl ester
U088	84–66–2	1,2-Benzenedicarboxylic acid, diethyl ester

U088	84–66–2	Diethyl phthalate
U089	56–53–1	Diethylstilbesterol
U089	56–53–1	Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-
U090	94–58–6	1,3-Benzodioxole, 5-propyl-
U090	94–58–6	Dihydrosafrole
U091	119–90–4	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-
U091	119–90–4	3,3'-Dimethoxybenzidine
U092	124–40–3	Dimethylamine (I)
U092	124–40–3	Methanamine, -methyl-(I)
U093	60–11–7	Benzenamine, N,N-dimethyl-4-(phenylazo)-
U093	60–11–7	p-Dimethylaminoazobenzene
U094	57–97–6	Benz[a]anthracene, 7,12-dimethyl-
U094	57–97–6	7,12-Dimethylbenz[a]anthracene
U095	119–93–7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-
U095	119–93–7	3,3'-Dimethylbenzidine
U096	80–15–9	alpha,alpha-Dimethylbenzylhydroperoxide (R)
U096	80–15–9	Hydroperoxide, 1-methyl-1-phenylethyl-(R)
U097	79–44–7	Carbamic chloride, dimethyl-
U097	79–44–7	Dimethylcarbamoyl chloride
U098	57–14–7	1,1-Dimethylhydrazine
U098	57–14–7	Hydrazine, 1,1-dimethyl-
U099	540–73–8	1,2-Dimethylhydrazine
U099	540–73–8	Hydrazine, 1,2-dimethyl-
U101	105–67–9	2,4-Dimethylphenol
U101	105–67–9	Phenol, 2,4-dimethyl-
U102	131–11–3	1,2-Benzenedicarboxylic acid, dimethyl ester
U102	131–11–3	Dimethyl phthalate
U103	77–78–1	Dimethyl sulfate
U103	77–78–1	Sulfuric acid, dimethyl ester
U105	121–14–2	Benzene, 1-methyl-2,4-dinitro-
U105	121–14–2	2,4-Dinitrotoluene
U106	606–20–2	Benzene, 2-methyl-1,3-dinitro-
U106	606–20–2	2,6-Dinitrotoluene
U107	117–84–0	1,2-Benzenedicarboxylic acid, dioctyl ester
U107	117–84–0	Di-n-octyl phthalate
U108	123–91–1	1,4-Diethyleneoxide
U108	123–91–1	1,4-Dioxane
U109	122–66–7	1,2-Diphenylhydrazine
U109	122–66–7	Hydrazine, 1,2-diphenyl-
U110	142–84–7	Dipropylamine (I)
U110	142–84–7	1-Propanamine, N-propyl-(I)
U111	621–64–7	Di-n-propylnitrosamine
U111	621–64–7	1-Propanamine, N-nitroso-N-propyl-

U112	141–78–6	Acetic acid ethyl ester (I)
U112	141–78–6	Ethyl acetate (I)
U113	140–88–5	Ethyl acrylate (I)
U113	140–88–5	2-Propenoic acid, ethyl ester (I)
U114	[1]111–54–6	Carbamodithioic acid, 1,2-ethanediylbis-, salts & esters
U114	[1]111–54–6	Ethylenebisdithiocarbamic acid, salts & esters
U115	75–21–8	Ethylene oxide (I,T)
U115	75–21–8	Oxirane (I,T)
U116	96–45–7	Ethylenethiourea
U116	96–45–7	2-Imidazolidinethione
U117	60–29–7	Ethane, 1,1'-oxybis-(I)
U117	60–29–7	Ethyl ether (I)
U118	97–63–2	Ethyl methacrylate
U118	97–63–2	2-Propenoic acid, 2-methyl-, ethyl ester
U119	62–50–0	Ethyl methanesulfonate
U119	62–50–0	Methanesulfonic acid, ethyl ester
U120	206–44–0	Fluoranthene
U121	75–69–4	Methane, trichlorofluoro-
U121	75–69–4	Trichloromonofluoromethane
U122	50–00–0	Formaldehyde
U123	64–18–6	Formic acid (C,T)
U124	110–00–9	Furan (I)
U124	110–00–9	Furfuran (I)
U125	98–01–1	2-Furancarboxaldehyde (I)
U125	98–01–1	Furfural (I)
U126	765–34–4	Glycidylaldehyde
U126	765–34–4	Oxiranecarboxyaldehyde
U127	118–74–1	Benzene, hexachloro-
U127	118–74–1	Hexachlorobenzene
U128	87–68–3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U128	87–68–3	Hexachlorobutadiene
U129	58–89–9	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)-
U129	58–89–9	Lindane
U130	77–47–4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
U130	77–47–4	Hexachlorocyclopentadiene
U131	67–72–1	Ethane, hexachloro-
U131	67–72–1	Hexachloroethane
U132	70–30–4	Hexachlorophene
U132	70–30–4	Phenol, 2,2'-methylenebis[3,4,6-trichloro-
U133	302–01–2	Hydrazine (R,T)
U134	7664–39–3	Hydrofluoric acid (C,T)
U134	7664–39–3	Hydrogen fluoride (C,T)

U135	7783–06–4	Hydrogen sulfide
U135	7783–06–4	Hydrogen sulfide H_2S
U136	75–60–5	Arsinic acid, dimethyl-
U136	75–60–5	Cacodylic acid
U137	193–39–5	Indeno[1,2,3-cd]pyrene
U138	74–88–4	Methane, iodo-
U138	74–88–4	Methyl iodide
U140	78–83–1	Isobutyl alcohol (I,T)
U140	78–83–1	1-Propanol, 2-methyl- (I,T)
U141	120–58–1	1,3-Benzodioxole, 5-(1-propenyl)-
U141	120–58–1	Isosafrole
U142	143–50–0	Kepone
U142	143–50–0	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-
U143	303–34–4	2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*),7aalpha]]-
U143	303–34–4	Lasiocarpine
U144	301–04–2	Acetic acid, lead(2+) salt
U144	301–04–2	Lead acetate
U145	7446–27–7	Lead phosphate
U145	7446–27–7	Phosphoric acid, lead(2+) salt (2:3)
U146	1335–32–6	Lead, bis(acetato-O)tetrahydroxytri-
U146	1335–32–6	Lead subacetate
U147	108–31–6	2,5-Furandione
U147	108–31–6	Maleic anhydride
U148	123–33–1	Maleic hydrazide
U148	123–33–1	3,6-Pyridazinedione, 1,2-dihydro-
U149	109–77–3	Malononitrile
U149	109–77–3	Propanedinitrile
U150	148–82–3	Melphalan
U150	148–82–3	L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-
U151	7439–97–6	Mercury
U152	126–98–7	Methacrylonitrile (I,T)
U152	126–98–7	2-Propenenitrile, 2-methyl- (I,T)
U153	74–93–1	Methanethiol (I,T)
U153	74–93–1	Thiomethanol (I,T)
U154	67–56–1	Methanol (I)
U154	67–56–1	Methyl alcohol (I)
U155	91–80–5	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-
U155	91–80–5	Methapyrilene
U156	79–22–1	Carbonochloridic acid, methyl ester (I,T)
U156	79–22–1	Methyl chlorocarbonate (I,T)
U157	56–49–5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-

U157	56–49–5	3-Methylcholanthrene
U158	101–14–4	Benzenamine, 4,4'-methylenebis[2-chloro-
U158	101–14–4	4,4'-Methylenebis(2-chloroaniline)
U159	78–93–3	2-Butanone (I,T)
U159	78–93–3	Methyl ethyl ketone (MEK) (I,T)
U160	1338–23–4	2-Butanone, peroxide (R,T)
U160	1338–23–4	Methyl ethyl ketone peroxide (R,T)
U161	108–10–1	Methyl isobutyl ketone (I)
U161	108–10–1	4-Methyl-2-pentanone (I)
U161	108–10–1	Pentanol, 4-methyl-
U162	80–62–6	Methyl methacrylate (I,T)
U162	80–62–6	2-Propenoic acid, 2-methyl-, methyl ester (I,T)
U163	70–25–7	Guanidine, -methyl-N'-nitro-N-nitroso-
U163	70–25–7	MNNG
U164	56–04–2	Methylthiouracil
U164	56–04–2	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
U165	91–20–3	Naphthalene
U166	130–15–4	1,4-Naphthalenedione
U166	130–15–4	1,4-Naphthoquinone
U167	134–32–7	1-Naphthalenamine
U167	134–32–7	alpha-Naphthylamine
U168	91–59–8	2-Naphthalenamine
U168	91–59–8	beta-Naphthylamine
U169	98–95–3	Benzene, nitro-
U169	98–95–3	Nitrobenzene (I,T)
U170	100–02–7	p-Nitrophenol
U170	100–02–7	Phenol, 4-nitro-
U171	79–46–9	2-Nitropropane (I,T)
U171	79–46–9	Propane, 2-nitro- (I,T)
U172	924–16–3	1-Butanamine, N-butyl-N-nitroso-
U172	924–16–3	N-Nitrosodi-n-butylamine
U173	1116–54–7	Ethanol, 2,2'-(nitrosoimino)bis-
U173	1116–54–7	N-Nitrosodiethanolamine
U174	55–18–5	Ethanamine, -ethyl-N-nitroso-
U174	55–18–5	N-Nitrosodiethylamine
U176	759–73–9	N-Nitroso-N-ethylurea
U176	759–73–9	Urea, N-ethyl-N-nitroso-
U177	684–93–5	N-Nitroso-N-methylurea
U177	684–93–5	Urea, N-methyl-N-nitroso-
U178	615–53–2	Carbamic acid, methylnitroso-, ethyl ester
U178	615–53–2	N-Nitroso-N-methylurethane
U179	100–75–4	N-Nitrosopiperidine
U179	100–75–4	Piperidine, 1-nitroso-

U180	930–55–2	N-Nitrosopyrrolidine
U180	930–55–2	Pyrrolidine, 1-nitroso-
U181	99–55–8	Benzenamine, 2-methyl-5-nitro-
U181	99–55–8	5-Nitro-o-toluidine
U182	123–63–7	1,3,5-Trioxane, 2,4,6-trimethyl-
U182	123–63–7	Paraldehyde
U183	608–93–5	Benzene, pentachloro-
U183	608–93–5	Pentachlorobenzene
U184	76–01–7	Ethane, pentachloro-
U184	76–01–7	Pentachloroethane
U185	82–68–8	Benzene, pentachloronitro-
U185	82–68–8	Pentachloronitrobenzene (PCNB)
U186	504–60–9	1-Methylbutadiene (I)
U186	504–60–9	1,3-Pentadiene (I)
U187	62–44–2	Acetamide, -(4-ethoxyphenyl)-
U187	62–44–2	Phenacetin
U188	108–95–2	Phenol
U189	1314–80–3	Phosphorus sulfide (R)
U189	1314–80–3	Sulfur phosphide (R)
U190	85–44–9	1,3-Isobenzofurandione
U190	85–44–9	Phthalic anhydride
U191	109–06–8	2-Picoline
U191	109–06–8	Pyridine, 2-methyl-
U192	23950–58–5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-
U192	23950–58–5	Pronamide
U193	1120–71–4	1,2-Oxathiolane, 2,2-dioxide
U193	1120–71–4	1,3-Propane sultone
U194	107–10–8	1-Propanamine (I,T)
U194	107–10–8	n-Propylamine (I,T)
U196	110–86–1	Pyridine
U197	106–51–4	p-Benzoquinone
U197	106–51–4	2,5-Cyclohexadiene-1,4-dione
U200	50–55–5	Reserpine
U200	50–55–5	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester,(3beta,16beta,17alpha,18beta,20alpha)-
U201	108–46–3	1,3-Benzenediol
U201	108–46–3	Resorcinol
U203	94–59–7	1,3-Benzodioxole, 5-(2-propenyl)-
U203	94–59–7	Safrole
U204	7783–00–8	Selenious acid
U204	7783–00–8	Selenium dioxide
U205	7488–56–4	Selenium sulfide

U205	7488–56–4	Selenium sulfide SeS_2(R,T)
U206	18883–66–4	Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-, D-
U206	18883–66–4	D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)-carbonyl]amino]-
U206	18883–66–4	Streptozotocin
U207	95–94–3	Benzene, 1,2,4,5-tetrachloro-
U207	95–94–3	1,2,4,5-Tetrachlorobenzene
U208	630–20–6	Ethane, 1,1,1,2-tetrachloro-
U208	630–20–6	1,1,1,2-Tetrachloroethane
U209	79–34–5	Ethane, 1,1,2,2-tetrachloro-
U209	79–34–5	1,1,2,2-Tetrachloroethane
U210	127–18–4	Ethene, tetrachloro-
U210	127–18–4	Tetrachloroethylene
U211	56–23–5	Carbon tetrachloride
U211	56–23–5	Methane, tetrachloro-
U213	109–99–9	Furan, tetrahydro-(I)
U213	109–99–9	Tetrahydrofuran (I)
U214	563–68–8	Acetic acid, thallium(1+) salt
U214	563–68–8	Thallium(I) acetate
U215	6533–73–9	Carbonic acid, dithallium(1+) salt
U215	6533–73–9	Thallium(I) carbonate
U216	7791–12–0	Thallium(I) chloride
U216	7791–12–0	Thallium chloride TlCl
U217	10102–45–1	Nitric acid, thallium(1+) salt
U217	10102–45–1	Thallium(I) nitrate
U218	62–55–5	Ethanethioamide
U218	62–55–5	Thioacetamide
U219	62–56–6	Thiourea
U220	108–88–3	Benzene, methyl-
U220	108–88–3	Toluene
U221	25376–45–8	Benzenediamine, ar-methyl-
U221	25376–45–8	Toluenediamine
U222	636–21–5	Benzenamine, 2-methyl-, hydrochloride
U222	636–21–5	o-Toluidine hydrochloride
U223	26471–62–5	Benzene, 1,3-diisocyanatomethyl- (R,T)
U223	26471–62–5	Toluene diisocyanate (R,T)
U225	75–25–2	Bromoform
U225	75–25–2	Methane, tribromo-
U226	71–55–6	Ethane, 1,1,1-trichloro-
U226	71–55–6	Methyl chloroform
U226	71–55–6	1,1,1-Trichloroethane
U227	79–00–5	Ethane, 1,1,2-trichloro-
U227	79–00–5	1,1,2-Trichloroethane
U228	79–01–6	Ethene, trichloro-

U228	79–01–6	Trichloroethylene
U234	99–35–4	Benzene, 1,3,5-trinitro-
U234	99–35–4	1,3,5-Trinitrobenzene (R,T)
U235	126–72–7	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U235	126–72–7	Tris(2,3-dibromopropyl) phosphate
U236	72–57–1	2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(azo)bis[5-amino-4-hydroxy]-, tetrasodium salt
U236	72–57–1	Trypan blue
U237	66–75–1	2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-
U237	66–75–1	Uracil mustard
U238	51–79–6	Carbamic acid, ethyl ester
U238	51–79–6	Ethyl carbamate (urethane)
U239	1330–20–7	Benzene, dimethyl- (I,T)
U239	1330–20–7	Xylene (I)
U240	[1]94–75–7	Acetic acid, (2,4-dichlorophenoxy)-, salts & esters
U240	[1]94–75–7	2,4-D, salts & esters
U243	1888–71–7	Hexachloropropene
U243	1888–71–7	1-Propene, 1,1,2,3,3,3-hexachloro-
U244	137–26–8	Thioperoxydicarbonic diamide $[(H_2N)C(S)]_2S_2$, tetramethyl-
U244	137–26–8	Thiram
U246	506–68–3	Cyanogen bromide (CN)Br
U247	72–43–5	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4- methoxy-
U247	72–43–5	Methoxychlor
U248	[1]81–81–2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, & salts, when present at concentrations of 0.3% or less
U248	[1]81–81–2	Warfarin, & salts, when present at concentrations of 0.3% or less
U249	1314–84–7	Zinc phosphide Zn_3P_2, when present at concentrations of 10% or less
U271	17804–35–2	Benomyl
U271	17804–35–2	Carbamic acid, [1-[(butylamino)carbonyl]-1H-benzimidazol-2-yl]-, methyl ester
U278	22781–23–3	Bendiocarb
U278	22781–23–3	1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate
U279	63–25–2	Carbaryl
U279	63–25–2	1-Naphthalenol, methylcarbamate
U280	101–27–9	Barban
U280	101–27–9	Carbamic acid, (3-chlorophenyl)-, 4-chloro-2-butynyl ester
U328	95–53–4	Benzenamine, 2-methyl-
U328	95–53–4	o-Toluidine
U353	106–49–0	Benzenamine, 4-methyl-
U353	106–49–0	p-Toluidine
U359	110–80–5	Ethanol, 2-ethoxy-
U359	110–80–5	Ethylene glycol monoethyl ether
U364	22961–82–6	Bendiocarb phenol
U364	22961–82–6	1,3-Benzodioxol-4-ol, 2,2-dimethyl-,

U367	1563–38–8	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-
U367	1563–38–8	Carbofuran phenol
U372	10605–21–7	Carbamic acid, 1H-benzimidazol-2-yl, methyl ester
U372	10605–21–7	Carbendazim
U373	122–42–9	Carbamic acid, phenyl-, 1-methylethyl ester
U373	122–42–9	Propham
U387	52888–80–9	Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester
U387	52888–80–9	Prosulfocarb
U389	2303–17–5	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester
U389	2303–17–5	Triallate
U394	30558–43–1	A2213
U394	30558–43–1	Ethanimidothioic acid, 2-(dimethylamino)-N-hydroxy-2-oxo-, methyl ester
U395	5952–26–1	Diethylene glycol, dicarbamate
U395	5952–26–1	Ethanol, 2,2'-oxybis-, dicarbamate
U404	121–44–8	Ethanamine, N,N-diethyl-
U404	121–44–8	Triethylamine
U409	23564–05–8	Carbamic acid, [1,2-phenylenebis (iminocarbonothioyl)]bis-, dimethyl ester
U409	23564–05–8	Thiophanate-methyl
U410	59669–26–0	Ethanimidothioic acid, N,N'-[thiobis[(methylimino)carbonyloxy]]bis-, dimethyl ester
U410	59669–26–0	Thiodicarb
U411	114–26–1	Phenol, 2-(1-methylethoxy)-, methylcarbamate
U411	114–26–1	Propoxur
See F027	93–76–5	Acetic acid, (2,4,5-trichlorophenoxy)-
See F027	87–86–5	Pentachlorophenol
See F027	87–86–5	Phenol, pentachloro-
See F027	58–90–2	Phenol, 2,3,4,6-tetrachloro-
See F027	95–95–4	Phenol, 2,4,5-trichloro-
See F027	88–06–2	Phenol, 2,4,6-trichloro-
See F027	93–72–1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-
See F027	93–72–1	Silvex (2,4,5-TP)
See F027	93–76–5	2,4,5-T
See F027	58–90–2	2,3,4,6-Tetrachlorophenol
See F027	95–95–4	2,4,5-Trichlorophenol
See F027	88–06–2	2,4,6-Trichlorophenol

[1]CAS Number given for parent compound only.

[*Comment:* For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), R (Reactivity), I (Ignitability) and C (Corrosivity). Absence of a letter indicates that the compound is only listed for toxicity. Wastes are first listed in alphabetical order by substance and then listed

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