



Department of
Environmental
Conservation

Environmental Compliance and Best Management Practices In New York State Schools



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REGULATORY BACKGROUND

In 1976, the United States Congress passed the Resource Conservation and Recovery Act (RCRA). The objectives of RCRA are to protect human health and the environment from the potential hazards of waste disposal, to conserve energy and natural resources, to reduce the amount of waste generated, and to ensure that wastes are managed in an environmentally sound manner. RCRA regulates the management of solid waste (e.g. garbage), hazardous waste, and underground storage tanks holding petroleum products or certain chemicals. This federal law sought to control the management of hazardous waste from its point of generation to its ultimate disposal, from “cradle to grave.”

Initially, the focus of RCRA was on large companies which produced the greatest proportion of hazardous waste. Businesses producing less than 1000 kilograms (2,200 pounds) of hazardous waste per month were not required to comply with most of the requirements applicable to larger generators of hazardous waste.

Subsequently, awareness of potential health and environmental problems resulted from mismanagement of hazardous waste from a large number of Small Quantity Generators (SQG) generating between 100 and 1000 kilograms of hazardous waste per month. In 1984, Congress passed amendments to RCRA which expanded the scope of the law to include Small Quantity Generators.

The Clean Air Act is a federal law enacted by Congress to control air pollution on a national level. It requires the United States Environmental Protection Agency (EPA) to develop and enforce regulations to protect the general public from exposure to airborne contaminants that are known to be hazardous to human health. The Clean Air Act was passed in 1963 and significantly amended in 1970 and 1990.

The Federal Water Pollution Act of 1948 was the first major U.S. law to address water pollution. Growing public awareness and concern for controlling water pollution led to the sweeping amendments in 1972. As amended in 1977, the law became commonly known as the Clean Water Act (CWA).

EPA, in response to the federal legislation, adopted regulations for RCRA, The Clean Air Act and the Clean Water Act. To comply with the regulations adopted by the EPA, New York State crafted its own regulations as a delegated state by EPA. The New York State regulations can be found in DEC Public Website at <http://www.dec.ny.gov>.

INTRODUCTION

This publication has been prepared by the Division of Materials Management's Toxic Reduction and Green Chemistry Section of the New York State Department of Environmental Conservation. This manual was developed to help schools understand environmental requirements that are specific to them.

Climbing disposal costs and liabilities associated with hazardous waste have changed how schools must go about managing their wastes. While many schools understand their day-to-day operations, they are often not familiar with what wastes are generated or how to properly manage them.

It is also important for schools in New York State to concentrate their efforts on how to eliminate or minimize hazardous waste before it is generated. **Preventing waste is better than managing it.** By generating less waste and implementing best management practices, schools will both help the environment and save money.

Keep this manual at your school and refer to the different sections on hazardous waste, water, air, chemical and petroleum bulk storage, and best management practices, as you need them.

Know Your School

Schools understand their day-to-day operations, but they may not be familiar with the wastes that they generate or how to properly manage them. By reading this manual, you will have a better understanding of how your school can stay in compliance with DEC regulations. You will have a better overview of how to manage your wastes. For additional information, see Section IV-Resource Guide on page 50 for a list of technical assistance providers.

Section I - Regulations

Hazardous Waste Regulations

State hazardous waste management regulations apply to schools that generate hazardous waste. To find out if these regulations apply to your school, you must first determine if you generate hazardous waste. 6NYCRR Part 371 provides information for the identification and listing of hazardous waste. In addition, your waste may be hazardous if your solid waste is not excluded from regulation under Title 6, Part 371.1(e)(2) of the New York Codes, Rules and Regulations (NYCRR) and meets any of the following criteria:

- 1. Listed Wastes** - A waste is hazardous if it is listed in Part 371 of the NYS Codes, Rules and Regulations (6 NYCRR). There are listed wastes so toxic or reactive in small quantities that they are strictly regulated. These wastes are called **Acutely Hazardous Wastes**. They include such wastes as used cyanide and strychnine compounds and certain pesticide wastes. Many dioxin-containing wastes are also considered acutely hazardous. Wastes marked with an asterisk in Table 3 on page 43 have been designated as acutely hazardous
- 2. Characteristic Wastes** - If your waste is not listed in 6 NYCRR Part 371, it could still be considered a hazardous waste if it exhibits one or more of the following four characteristics:



Ignitability

It catches fire easily. Ignitable wastes include many organic solvents and some paint wastes and strong oxidizing agents. A liquid waste is ignitable if it has a flash point of less than 60 degrees C (140 degrees F). The waste code for ignitable wastes is D001.



Corrosivity

It dissolves metals and other materials, or burns the skin. Corrosive wastes include waste rust removers, waste acid or alkaline cleaning fluids and waste battery acid. Any liquid that has a pH of 2.0 or lower or a pH of 12.5 or higher is corrosive. The waste code for corrosive wastes is D002.



Reactivity

It undergoes a violent chemical reaction spontaneously or reacts violently with air or water. Reactive wastes include those which can generate toxic gases or vapors. The waste code for reactive wastes is D003.



Toxicity

A waste sample fails the toxicity characteristic leaching procedure (TCLP) analysis if one or all of the 40 substances that were tested exceed the allowable standard set by EPA. This means that the waste tested contains high concentrations of heavy metals or organics. See Appendix 2 on page 59 for a list of substances covered by the TCLP. For a list of certified labs that offer this procedure go to:

<http://www.wadsworth.org/labcert/elap/tclp.html>

- 3. Mixtures** - Mixing a hazardous waste with any material is regulated and may require a hazardous waste Treatment, Storage or Disposal Facility (TSDF) permit unless the mixing process meets an exemption in Part 373-1.1(d)(1). If your waste is a mixture of solid waste and a hazardous waste that is listed in Part 371.4 solely because it exhibits one or more of the characteristics of hazardous waste it is classified as a hazardous waste, unless the waste no longer exhibits any of the characteristics of a hazardous waste. Also, even if the mixture does not exhibit any hazardous waste characteristics, the waste may still be subject to the Land Disposal Restrictions found in 6 NYCRR Part 376.
- 4. Used Oil** - Used oil containing more than 1000 ppm total halogens is regulated as a hazardous waste on the presumption that the oil has been mixed with halogenated hazardous waste listed in 6 NYCRR Section 371.4, including spent chlorinated solvents. Persons may rebut this presumption by demonstrating to DEC that no such mixing occurred. If your used oil contains a listed hazardous spent solvent the whole mixture becomes a hazardous waste and would not be regulated under the used oil regulations. There are other circumstances in which used oil may be regulated as a hazardous waste. If the generator knowingly adds listed hazardous wastes to the used oil, then the used oil mixture is a hazardous waste regardless of the total halogens concentration. Furthermore, the used oil mixture regulations in 6 NYCRR 374-2.2(b) describe the status of other types of used oil mixtures. Persons who are not familiar with the used oil regulations and require assistance in determining whether a mixture is a hazardous waste or used oil should contact the NYSDEC Facility Compliance Section at (518) 402-9543.

Remember if your used oil is recycled or burned for energy recovery, then you can manage it under the NYS solid waste regulations.

Another way that you can determine if your waste is hazardous is by applying knowledge. (You must have a basis, analytical results, MSDS, etc.) If you are certain that a specific waste that you generate is not a hazardous waste because of your knowledge about this waste, then you can dispose of this waste as a solid waste. However, it is your responsibility to make this determination, and you will be liable for any illegal disposal of hazardous waste.

Table 1: Typical Hazardous Wastes Generated By Schools

(For descriptions of the types of wastes see Section II)

Typical Hazardous Waste Generated by Schools			
Locations	How Generated	Types of Waste	Waste Codes
School Bus/Vehicle Maintenance Garages	Degreasing, rust removal, paint preparation, tank clean out, vehicle servicing,	Acids, bases, solvents, ignitables, toxics, paints, batteries, heavy metals, mercury	D001, D002, D006, D008, D009, D018 F001-F005,
Science Labs/Classrooms	Lab chemicals, mercury, biology preserved specimens (containing more than 1% formaldehyde)	Acids, bases, solvents, ignitables, toxics, heavy metals, mercury, reactives, corrosives	D001, D002, D003, D004, D005, D006, D009, F003
Art Classrooms	Paints, photography, ceramics, printmaking, jewelry- making, sculpture	Heavy metals, toxics, mercury, acids, bases, corrosives, inks, ignitables, solvents	D001, D002, D006, D007, D011
Janitorial Storage Areas	Floor & general all purpose cleaners, sanitizers, pesticides (includes disinfectants)	Acids, bases, solvents, ignitables, corrosives, pesticides, wastewater	D001, D002, D003
School Buildings	Floor refinishers, HVAC systems, annual painting, pesticides (includes disinfectants)	Paint waste, acids, bases, solvents, ignitables	D001, D002, U036
Cafeteria	Cleaners, sanitizers, pesticides (includes disinfectants)	Acids, bases, corrosives, solvents, unused pesticides, rinse water, empty containers	D001, D002, D003, U248
Nurses Office	Mercury-containing devices, unused drug prescriptions	Heavy metals, toxics	D009
School Grounds/ Pools	Pesticide application and cleanup, sanitizers	Unused pesticides, rinse water, empty containers, corrosives, reactives	D002, D003, D016
BOCES Facilities: Computer Labs, Cosmetology, Nursing, Urban Forestry/ Arboriculture Carpentry, Construction, Electricity, HVAC, Welding, Plumbing, Auto Technology, Culinary Arts, Nursing, Floral Design, Nail Technician, Food Service, Equine Science	Automobile servicing, metal/woodworking, computer hardware waste, hair products, nail treatments, chemicals, glues, mercury-containing devices, sanitizers, pesticides (includes disinfectants), animal husbandry medications	Acids/bases, paint wastes, solvents, ignitables, toxics, reactives, heavy metals, corrosives	D001, D002, D003 D009, D018,

COUNTING YOUR HAZARDOUS WASTE

If you generate hazardous waste, it is your responsibility as a generator to determine how much you generate per month as well as the name and type (acute or non-acute) of waste you generate. Once you have identified your waste, you must assign the correct waste code for each waste. Some waste codes are listed in Table 1 and in Section II. The complete list of waste codes can be found in 6 NYCRR Part 371. To determine the quantity of hazardous waste you generate per month, you must identify which wastes must be counted and which wastes that can be excluded.

Do Count

You count all quantities of "Listed" and "Characteristic" hazardous wastes that you:

- Accumulated on-site for any period of time prior to disposal or recycling;
- Packaged and transported off-site;
- Placed directly in a regulated treatment or disposal unit at your school; and
- Generated as still bottoms or sludges and removed from storage tanks.

Do Not Count

You do not have to count wastes that:

- Are specifically exempted from counting. Examples include spent lead-acid batteries that will be sent off site for reclamation, scrap metal that will be recycled, used electronics that are recycled, used oil managed under 6 NYCRR Part 360-14, and universal wastes that include NiCd batteries, mercury-containing equipment, fluorescent lamps, and certain pesticides;
- May be left in the bottom of containers that have been completely emptied through conventional means, such as pouring or pumping. Containers that held an acute hazardous waste must be thoroughly cleaned; or
- Are left as residue in the bottom of storage tanks, if the residue is not removed from the tank.

To help you identify some of the waste streams common to your school facilities, see Table 1 on page 9, which lists typical hazardous wastes generated by schools. If your waste is hazardous, you will need to manage it according to state regulations. Once you have determined that you generate hazardous waste and you have some idea of how to count your wastes, you need to determine what category of hazardous waste generator applies to your school. Your requirements will differ for each category.

The three categories of hazardous waste generators (see Table 2, page 11) are : Conditionally Exempt Small Quantity Generator (CESQG), Small Quantity Generator (SQG), and Large Quantity Generator (LQG).

Table 2: Hazardous Waste Generator Categories

Generation and Storage:	Category:
<ul style="list-style-type: none"> ▪ Generates no more than 100 kg (220 pounds or approximately 27 gallons) of hazardous waste per calendar month. ▪ Generates no more than 1 kg (2.2 pounds) of acute hazardous waste per calendar month, and ▪ Stores no more than 1,000 kg (2,200 pounds or approximately 275 gallons) of hazardous waste or 1 kg (2.2 pounds) of acute hazardous waste on site at any time. 	<p>Conditionally Exempt Small Quantity Generator (CESQG)</p>
<ul style="list-style-type: none"> ▪ Generates between 100 kg (220 pounds) and 1,000 kg (2,200 pounds) of hazardous waste per calendar month; ▪ Generates no more than 1 kg (2.2 pounds) of acute hazardous waste per calendar month; ▪ Stores less than 6,000 kg (13,200 pounds or approximately 1650 gallons) of hazardous waste; and ▪ Stores no more than 1 kg (2.2 pounds) of acute hazardous waste on site at any time. 	<p>Small Quantity Generator (SQG)</p>
<ul style="list-style-type: none"> ▪ Generates more than 1,000 kg (2,200 pounds) per month of hazardous waste; ▪ Generates more than 1 kg (2.2 pounds) per month of acute hazardous waste; or ▪ Stores more than 1 kg (2.2 pounds) of acute hazardous waste. 	<p>Large Quantity Generator (LQG)</p>

CONDITIONALLY EXEMPT SMALL QUANTITY GENERATORS

This category of hazardous waste generators will have the fewest requirements. By using good waste management practices and a little extra effort, your school can generate less waste which would put you in this category of waste generators. In order to be a CESQG, you must meet all of the following conditions:

- Generate no more than 100 kilograms (220 pounds) per month of listed and/or characteristic hazardous waste.
- Generate no more than 1 kilogram (2.2 pounds) per month of acutely hazardous waste.
- Store no more than 1000 kilograms (2,200 pounds) of listed and/or characteristic hazardous waste.
- Store no more than 1 kilogram (2.2 pounds) of acutely hazardous waste.

One 55 gallon drum = about 200 kilograms
1000 kilograms = 2200 pounds ~ 275 gals.
100 kilograms = 220 pounds ~ 28 gals.

If your school is classified as a Conditionally Exempt Small Quantity Generator, you:

1. Must identify all hazardous waste that you generate. Know which of your wastes would be classified as hazardous and the correct waste codes;
2. Cannot store more than 1000 kg of hazardous waste on-site at any time, but there are no time limits for storage; and
3. Must ensure delivery of your hazardous waste to a DEC-approved facility that is one of the following:
 - A state or federally regulated hazardous waste management treatment, storage, or disposal facility.
 - Any department-approved facility authorized to manage municipal or industrial solid waste. For example, some landfills will take dry paints and still bottoms.
 - Municipal incinerators may be able to take waste materials such as paint thinners, and some solvent formulations. You must obtain prior approval from these facilities.
 - A facility that uses, reuses, or legitimately recycles the waste. If you are recycling or treating the waste yourself, please call DEC at (518) 402-8706 for more information on hazardous waste treatment or recycling.
 - A permitted household hazardous waste collection facility that accepts CESQG waste. (Check with your municipality)
 - A universal waste handler or destination facility subject to the universal waste requirements of 40 CFR Part 273. (Universal wastes are wastes such as certain batteries, recalled or collected pesticides, mercury-containing equipment, or fluorescent lamps and ballasts).

Conditionally Exempt Small Quantity Generators have two options for getting their wastes to a disposal facility or a recycler:

1. Hire a 6 NYCRR Part 364 Permitted Hazardous Waste Hauler.
2. Your school can legally haul 100 kilograms (220 pounds) of hazardous waste per month to an approved facility within New York State. Some localities have additional requirements.

Warning

It is both illegal and dangerous to put hazardous waste in the trash dumpster.

SMALL QUANTITY GENERATORS

If you are a Small Quantity Generator, you must meet all of the following conditions:

- Generate between 100 kilograms (220 pounds) and 1000 kilograms (2,200 pounds) per month of hazardous waste;
- Generate no more than 1 kilogram (2.2 pounds) per month of acutely hazardous waste;
- Store up to 6000 kilograms (13,200 pounds) of hazardous waste; and
- Store no more than 1 kilogram (2.2 pounds) of acutely hazardous waste.

Small Quantity Generators must comply with all of the following requirements:

- Meet storage requirements;
- Have an emergency preparedness and response;
- Have an EPA Identification Number;
- Manifest waste;
- Use a licensed transporter;
- Have waste sent only to an authorized treatment, storage, or disposal facility; and
- Comply with land disposal restrictions.

Storage Requirements:

Small Quantity Generators may store up to 6000 kilograms (13,200 pounds) of listed and characteristic hazardous waste on-site for up to 180 days, or up to 270 days if the waste must be shipped to a treatment, storage, or disposal facility that is located over 200 miles away. Small quantity generators may store no more than 1 kilogram (2.2 pounds) of acutely hazardous waste on-site for any length of time.

If a Small Quantity Generator exceeds the 180 or 270 day limit for accumulating waste, they may request an extension. Extensions of up to 30 days may be granted by DEC if the waste must remain on-site due to unforeseen, temporary, or uncontrollable circumstances.

Small Quantity Generators who store hazardous waste on-site must follow certain common sense rules to protect human health and the environment and to reduce the likelihood of damages or injuries caused by leaks or spills of hazardous wastes.

Small Quantity Generators must comply with the 180-day storage requirements while Large Quantity Generators must comply with the 90-day storage requirements. There is no time limit for conditionally exempt small quantity generators, who can store their hazardous waste as long as they do not accumulate more than 1000 kg (2200 pounds).

If you store hazardous waste in containers, you must:

- Clearly mark each container with the words "HAZARDOUS WASTE" and other words that will identify the contents. Also, mark the date on the container when you first started collecting waste in that container.
- Keep containers in good condition, handle them carefully, and replace any leaking ones.
- Never store hazardous waste in containers that could rupture, leak, corrode, or fail in some other way.
- Keep containers closed except when you fill or empty them.
- Inspect containers for leaks and corrosion every week.
- Separate and protect reactive or ignitable waste from sources of ignition or reaction.
- Ensure that the waste being placed in a container will not react with the container itself or with any residue of waste previously held in the container.
- Never store wastes in a container that could react to cause fires, leaks, or other releases.
- Separate by a dike, berm, wall or other device containers of waste which are incompatible with other containers of waste stored nearby.
- Have secondary containment if you are located over a sole source aquifer and store more than 185 gallons (about 700 kilograms) of liquid hazardous waste.

If you store waste in tanks, you must make sure the following requirements are met:

- Never store hazardous waste in a tank if it may rupture, leak, corrode or otherwise cause the tank to fail.
- Uncovered tanks must be operated to ensure at least 60 centimeters (two feet) of space at the top of the tank, unless the tank is equipped with a containment structure, a drainage control system, or a diversion structure with a capacity that equals or exceeds the volume of the top 60 centimeters of the tank.
- Where hazardous waste is continuously fed into a tank, the tank must be equipped with a means to stop the inflow, such as a waste feed cut-off system or a bypass system to a stand-by tank.
- Discharge control equipment must be inspected once each operating day to ensure that it is in good working order.
- Data from monitoring equipment must be gathered once each operating day to ensure that the tank is being operated according to its design.
- To ensure compliance of uncovered tanks, the level of waste in the tank must be inspected once each operating day.
- The tank construction materials must be inspected at least once a week to detect corrosion or leaking of fixtures or seams.
- The construction material of discharge confinement structures and the area immediately surrounding discharge confinement structures must be inspected weekly to detect corrosion or obvious signs of leakage.
- Incompatible wastes must not be stored in the same tank.

- Hazardous waste must not be placed in an unwashed tank which previously held an incompatible waste or material.
- If over a sole source aquifer, have secondary containment if you store more than 110 gallons (418 liters) of liquid hazardous waste in underground storage tanks or more than 185 gallons (703 liters) of liquid hazardous waste in above-ground storage tanks.

Satellite Accumulation Areas

A generator may accumulate up to 55 gallons of hazardous waste, or 1 quart of acutely hazardous waste, in containers at or near any point of generation which is under the control of the operator of the process generating the waste. You can use a satellite accumulation area without obtaining a permit or interim status, or without complying with the 180-day storage requirements provided the generator:

- Complies with 6 NYCRR Section 373 - 3.9(b)-(d);
- Marks the containers with the words “Hazardous Waste”;
- Labels the containers to identify the contents, (i.e., flammable, reactive); and
- Date the containers when full.

If a generator accumulates more than 55 gallons of hazardous waste in a satellite accumulation area, within three days, the generator must mark the container holding the excess accumulation of hazardous waste with the date the excess amount began accumulating.

In addition, the quantities stored in satellite accumulation areas need to be counted against the maximum storage quantities. Example: If you are a Conditionally Exempt Small Quantity Generator and have accumulated 2,150 pounds in your hazardous waste storage area, but have 55 gallons of hazardous waste accumulated in your satellite area, you have just exceeded your storage limits and will be re-classified to a Small Quantity Generator. Practicing good waste management will prevent this.

Emergency Preparedness and Response

Small Quantity Generators must comply with the following emergency requirements:

- At least one employee must be designated as the Emergency Coordinator and must be on call or on the premises at all times to coordinate emergency response measures.
- The facility must post the following information next to all telephones in the work place:
 - name and telephone number of the emergency coordinator or designee;
 - location of fire extinguishers and spill control material, and if present, the fire alarm; and
 - telephone number of the fire department, unless the facility has a direct alarm.

- Employees must be familiar with proper waste handling and emergency response procedures relevant to their responsibilities during normal facility operation and emergencies.
- In the event of a fire, the emergency coordinator or his designee must call the fire department or attempt to extinguish the fire with a fire extinguisher.
- In the event of a spill, the emergency coordinator or his designee must attempt to contain the spill and, as soon as is practicable, to clean up any resultant contamination.

In the event of an emergency threatening public health outside the facility or when the generator is aware that a spill has reached surface water, the generator must immediately notify the National Response Center at (800) 424-8802 and DEC at (800) 457-7362 with the following information:

- Name, address and EPA identification number of the generator
- Date, time and type of incident
- Quantity and type of hazardous waste involved
- Extent of injuries, if any
- Estimated quantity and disposition of recovered materials

LARGE QUANTITY GENERATORS

You would be considered a Large Quantity Generator if your school does any of the following:

- Generate more than 1000 kilograms (2,200 pounds) per month of hazardous waste.
- Generate more than 1 kilogram (2.2 pounds) per month of acutely hazardous waste.
- Store more than 6000 kilograms (13,200 pounds) of hazardous waste.
- Store more than 1 kilogram (2.2 pounds) of acutely hazardous waste.

Large Quantity Generators must manifest their waste, obtain an EPA ID number, store hazardous waste no more than 90 days on site, submit biennial reports to DEC, keep records at your site for three years, comply with land disposal restrictions, and comply with export/import requirements for shipping waste.

Guidance for Large Quantity Generators is beyond the scope of this manual. You can obtain a copy of the regulations for Large Quantity Generators at:

www.dec.ny.gov/chemical/60838.html

EPA IDENTIFICATION NUMBER

If your school generates more than 100 kilograms (220 pounds) of non-acute hazardous waste in any calendar month, you will need to obtain an EPA Identification Number. Transporters and facilities that store, treat, or dispose of regulated quantities of hazardous waste must also have EPA Identification Numbers. These twelve-character identification numbers uniquely identify hazardous waste generators, transporters, and treatment, storage, or disposal facilities (TSDFs). They allow tracking of hazardous waste from its point of origin to its ultimate point of disposal.

An EPA Identification Number is issued based on the submitted Notification of Regulated Waste Activity form.

Notification of Regulated Waste Activity Instructions and Form Booklet, EPA Form 8700-12 are provided on-line at:

<http://www.epa.gov/osw/inforesources/data/form8700/forms.htm>

The booklet's instructions will assist you in obtaining an EPA Identification Number by completing and submitting the EPA Form 8700-12 for initial notifications; the instructions will also assist you in revising your Site ID Form information if you are required to submit a subsequent notification. A section is included with definitions for RCRA terms. The appendices list typical waste streams produced by small quantity generators, provide the EPA Hazardous Waste Numbers for typical waste streams, and provide the complete list of EPA Hazardous Waste Numbers (Codes).

THE MANIFEST SYSTEM

The hazardous waste manifest is a multi-copy shipping document that you must fill out and use to accompany your hazardous waste shipments. These forms can be obtained from printers approved by the EPA to print these forms. A list of these approved printers can be found on EPA's website at:

<http://www.epa.gov/osw/hazard/transportation/manifest/registry/printers.htm>

Hazardous waste manifest forms are not available from DEC.

All generators, except conditionally exempt generators, must manifest their hazardous waste shipments. The manifest form is designed so that shipments of hazardous waste can be tracked from their point of generation to their final point of disposal.

To track each shipment, New York State requires the generator to mail a copy of the manifest form to the DEC when the shipment leaves their site. The receiving facility also mails a copy of the manifest form to the DEC when the waste arrives at their facility for management. DEC, through their computer system, can match up these two manifests, documenting that the hazardous waste was safely transported to its destination.

Since 1980, this manifest information from hazardous waste transportation has been entered into a computer system where the data from the manifests is maintained and hazardous waste tracking is accomplished. The original manifest forms are scanned into an electronic image storage system to maintain a permanent document record.

Manifest data and images are used by DEC personnel and law enforcement officials for enforcement of federal and state hazardous waste and transportation regulatory requirements. Other uses include auditing special assessments, hazardous waste regulatory fee programs and annual hazardous waste reports.

Additionally, the DEC has a webpage that provides training slides to explain EPA's new federal hazardous waste manifest form which must be used nationwide to track hazardous waste shipments. This information is presented at workshops conducted by the DEC in October and November of each year. For additional information on manifest procedures: <http://www.dec.ny.gov/chemical/60805.html>

All hazardous waste manifest forms and related correspondence should be mailed to:

NYS Department of Environmental
Conservation Division of Environmental
Remediation Manifest and Reporting Section
625 Broadway, Floor 12
Albany, NY 12233-7252

Generators must submit Hazardous Waste Manifest forms to DEC. The federal mandated manifest form has six sheets. This means that the waste generator will need to make additional copies of the manifest form. They will need to make copies for “Generator State- Mailed Generator” and “Disposer State – Mailed by Generator” as necessary and submit them to the Generator or Disposer State.

Additionally, if a TSDf rejects a waste shipment back to the original Generator or rejects on to a secondary TSDf, the Generator or secondary TSDf will sign Block 18c to certify receipt of the rejected waste. Once signed in Block 18c, a copy of this form also needs to be submitted to DEC.

Hazardous Waste Manifest forms submitted to DEC must be postmarked within 10 days of waste shipment for the generator and within 10 days of waste receipt for TSDfS.

Manifest Section Contact Information

Phone: (518) 402-8730

Fax: (518) 402-9722

E-Mail: manifest@dec.ny.gov

It is important to remember that just because you have shipped the hazardous waste off your site and it is no longer in your possession, your liability has not ended. You are potentially liable for any mismanagement of your hazardous waste.

Manifesting Exemption

You are exempt from manifesting requirements as a generator (6NYCRR Part 372.2(b)(7), if your facility enters into a contractual agreement with a waste hauler, where the waste hauler is reclaiming the waste in which:

- The type of wastes and frequency of shipments are specified in the agreement;
- The vehicle used to transport the waste to the recycling facility and to deliver the regenerated material back to the facility are owned and operated by the reclaimer;
- The reclaimer complies with all Part 364 waste hauler permit requirements; and
- The generator keeps records of the hazardous waste codes, quantity of waste shipped, and The date the waste was shipped for each shipment; and
- The generator maintains a copy of the reclamation agreement on file for a period of at least three years after termination expiration of the agreement.

LICENSED TRANSPORTER

Transporters of hazardous waste in New York State must possess Part 364 Waste Transporter Permits and may only transport hazardous wastes to TSDFs that are authorized to accept hazardous waste. Since generators of hazardous waste may be held responsible for mismanagement of their waste after it has left their premises, it is advisable for generators to ensure that they use only duly authorized transporters and TSDFs.

If you want to find out if your transporter is permitted, contact the Waste Transporter Permit Section of the DEC at (518) 402-8792. Personnel will be able to provide you with computer generated listings of currently permitted waste transporters and the types of waste they are authorized to transport. You should contact the hauler and the TSDF to verify that they have EPA Identification Numbers and that they can and will handle your waste. Also, make sure that they have current permits, adequate insurance, and that the hauler's vehicles are in good condition. Choosing a transporter and a TSDF may take some time; therefore try to begin your search well ahead of the time you will need to ship your waste.

When you prepare hazardous waste for shipment, you must put the waste in containers acceptable for transportation. Make sure the containers are properly labeled and in compliance with applicable NYSDOT regulations.

Part 364 transporters must meet certain conditions in order to receive a DEC permit, which is renewed annually. For instance, they must maintain a certain amount of liability insurance to cover cleanup of spills or accidents, and each permit specifies the types of waste that can be hauled and where the wastes may be hauled.

Some schools may want to use brokers to arrange the details of transportation and disposal of their hazardous waste. The broker may be independent; in other cases, the transporter or the TSDF acts as a broker. Using a broker may facilitate waste disposal. However, as the generator of the waste, you retain responsibility for its transportation and treatment or disposal. When dealing with brokers, it remains your responsibility to ensure that:

- You have written communication from the ultimate designated treatment, storage or disposal facility for the particular wastes being offered for shipment stating that the facility is authorized and has the capacity to accept the hazardous waste set forth on the manifest and that the facility will assure that the ultimate disposal method is followed;
- You have written communication that the designated transporter is authorized to deliver the waste to the facility on the manifest;
- Copies of the manifest are distributed as shown on the New York State manifest form. When an out-of-state manifest does not have sufficient sheets for full notification of shipment and receipt, make additional copies; and
- Your shipment papers contain the notifications and certifications required by the federal and state land disposal restrictions. (See page 21 – Land Disposal Restrictions).

Keep In Mind

Small Quantity Generators cannot transport their own waste

In order to ensure that your waste is handled properly, you should also consider requesting the following information or taking the following steps:

- Request copies of all waste analyses done on samples of your wastes.
- Request a certificate of treatment or disposal for the waste from the ultimate disposal facility; this should be consistent with the method shown on the manifest or the exception report.
- Call the DEC office in your region (see Section IV, page 51) on a periodic basis to verify that the transporter and treatment or disposal facility have the proper waste handling permits.
- When the hauler arrives at your site to pick up your wastes, ask to see a copy of his or her Part 364 permit. Licensed 364 haulers must keep a copy of the permit in each truck. Look for the following information on the permit, which should be consistent with the information on the manifest:
 - license plate number of the vehicle;
 - expiration date of the permit;
 - types of wastes that can be hauled; and
 - facilities to which the hauler can take your waste.
- Check with the Better Business Bureau or Chamber of Commerce to see if there are records of complaints or problems against the hauler or treatment facility. Your colleagues or associates may also have information about haulers or treatment facilities in your area.

LAND DISPOSAL RESTRICTIONS

New York State has adopted Land Disposal Restrictions (LDRs) that Congress passed in to law in 1984. The LDR program requires that the waste is treated to reduce the hazardous constituents to levels set by EPA, or that the waste is treated using a specific technology before being disposed to land. Most SQGs have their designated treatment, storage, or disposal facility responsible for this treatment. If you choose to treat or recycle your waste yourself to meet LDR treatment standards, you must meet requirements for a waste analysis plan. Some examples of wastes that must be treated include used solvents, metal wastes, cyanide-containing wastes, and other types of hazardous wastes. Call DEC before you treat any hazardous waste. Since November 1988, unless specifically exempt or excluded, Small Quantity Generators that generate more than 100 kilograms (220 pounds) of hazardous waste in any calendar month have been affected by the federal LDR requirements.

Notification/Certification to Treatment, Storage or Disposal Facility

The notification must include the hazardous waste code for each waste, any subcategories, the manifest number, the treatability group (wastewater or non-wastewater), and the regulated hazardous constituents or underlying hazardous constituents of certain wastes associated with the waste shipment. The certification must include the same information as a notification, as well as a signed certification.

Record Keeping

Maintain the following for at least three years:

- Waste analysis records.
- Notifications/certifications to treatment, storage and disposal facilities, waste analysis data, if available, tolling agreement (reclamation exemption) and any other documents associated with your waste management.
- Any constituent monitoring.

A laboratory analysis is not necessary if the contents are known, and waste can be classified by a generator's knowledge. (Generator's knowledge must be verifiable). An analysis may be necessary initially, but not every time waste is generated.

If a broker, hauler or facility handles your paperwork for you, use the above section as a checklist to ensure that all LDR requirements are met. Keep copies of all paperwork that you sign.

EXCLUSIONS OR RECLAMATION EXEMPTIONS

There are certain exclusions or reclamation exemptions that apply to certain hazardous wastes that are generated.

Reclamation Exemption

Materials that are regenerated or processed to recover a useable product may be excluded from being a hazardous waste. Hazardous waste that are destined for reclamation, generally do not need to be counted unless they qualify for a specific inclusion.

If you are a SQG, you do not have to manifest wastes that are designated for reclamation if you enter into a contractual agreement with the reclaimer and abide by the following:

- The type of waste and frequency of shipments are specified by the generator and reclaimer.
- The vehicle used in transporting the waste is owned and operated by the reclaimer.
- The reclaimer complies with 6 NYCRR Part 364 waste transporter requirements.
- The generator records the hazardous waste codes, the quantities shipped, and the shipment dates.
- The generator keeps a copy of the reclamation agreement for at least three years after termination or expiration of the agreement.

Transporters servicing small quantity generators need not manifest their shipments, provided that the transporter also abides by the five requirements listed above. In addition, the transporter must carry these records when hauling waste to the reclamation facility as well as record the generator's EPA Identification Number, if required.

Similarly, this exemption extends to TSDFs accepting waste for reclamation. TSDFs may accept from SQGs waste not manifested for reclamation if the waste is being reclaimed in accordance with a contractual agreement. The TSDF must record the name, address and EPA Identification Number of the generator along with the quantities, waste types, and shipment dates. The TSDF must retain these records for three years after expiration or termination of the agreement. Lastly, the TSDF must submit quarterly summaries to DEC stating what wastes were accepted for reclamation. Forms can be sent to:

NYS Department of Environmental Conservation
Division of Environmental Remediation, Manifest and Reporting Section
625 Broadway
Albany, NY 12233-7252

Universal Waste Rule

To streamline the hazardous waste regulations for wastes that are generated by large numbers of sources (batteries, pesticides, mercury-containing equipment and lamps) in relatively small quantities, EPA issued the Universal Waste Rule in 1995. The universal waste regulations govern the collection and management of these widely generated wastes. These regulations were designed to reduce the amount of hazardous waste items in the municipal solid waste stream; encourage the recycling and proper disposal of some common hazardous wastes; and reduce the regulatory burden on the regulated community. Universal wastes are generated in a wide variety of settings including households, schools, office buildings, and medical facilities, in addition to the industrial settings usually associated with hazardous wastes. Universal wastes include such items as

hazardous batteries, hazardous mercury containing equipment, certain pesticides, and hazardous lamps. Although handlers of universal wastes must meet less stringent standards for storing, transporting, and collecting wastes, the wastes must comply with full hazardous waste requirements for final recycling, treatment, or disposal. Managing waste under the Universal Waste Rule helps remove these wastes from municipal landfills and incinerators, which provides stronger safeguards for public health and the environment. Items included under universal waste include:

- Batteries - Batteries included are nickel-cadmium (Ni-Cd), lithium, and small sealed lead-acid batteries, which are found in many common items in the business and home, including electronic equipment, mobile telephones, portable computers, and emergency backup lighting.
- Mercury-containing equipment - Thermostats, thermometers, barometers, and mercury switches.
- Pesticides – Agricultural pesticides that are recalled under certain conditions and unused pesticides that are collected and managed as part of a waste pesticide collection program. Pesticides may be unwanted for a number of reasons, such as being banned, obsolete, damaged or no longer needed due to changes in cropping patterns or other factors.
- Hazardous lamps - Examples of common universal waste hazardous lamps include, but are not limited to, fluorescent lights, high intensity discharge, neon, mercury vapor, high pressure sodium, and metal halide lamps. Many used lamps are considered hazardous wastes under the Resource Conservation and Recovery Act (RCRA) because of the presence of mercury or occasionally lead.

Requirements for Universal Waste

If your waste includes hazardous batteries, pesticides, mercury-containing equipment, or lamps, you must decide whether or not you will manage them as universal waste. You may choose between traditional hazardous waste regulations or universal waste rule standards. However, flip-flopping between the two sets in order to avoid meeting requirements of one or both sets of regulations is not allowed. For example, storage time limits exist for both management scenarios. Flip-flopping between regulations will not extend storage time.

If you decide to manage these wastes under the traditional hazardous waste regulations, you must count them in determining whether you are a CESQG, a SQG or a LQG. They must also be reported on the generator annual report if you are required to file an annual report.

If you decide to manage these wastes under the Universal Waste Rule then these wastes are not counted for the purpose of determining generator category, need not be reported on your hazardous waste report, and are not counted for regulatory fee purposes.

Proper Handling and Storage of Universal Waste

If your facility manages any of the above mentioned universal wastes at your site, then you are either a small quantity handler or a large quantity handler of universal waste. A small quantity handler of universal waste is any facility that accumulates less than 5,000 kg (11,000 pounds) of total universal wastes on site at any time. Requirements include

packaging in a way to minimize breakage; immediately cleaning up any leaks or spills; properly labeling each lamp or container; provide employee training; and must assure universal wastes are only taken to another universal waste handler, authorized destination facility, or foreign destination. A large quantity handler of universal waste accumulates 5,000 kg (11,000 pounds) or more of total universal wastes on site at any time. Requirements include all the small quantity handler requirements plus EPA notification; record keeping and reporting requirements. Both large and small quantity handlers can store universal waste up to one year on site.

Universal waste transporters must meet applicable DOT standards; comply with record keeping and reporting requirements; and comply with applicable requirements of 6 NYCRR Part 364 (waste transporter permits) if transporting more than 500 pounds of total universal waste in any shipment. Small or large quantity handlers may self-transport universal wastes in quantities less than 500 pounds of total universal waste without a waste transporter permit. Similarly, common carrier can transport up to 500 pounds of universal waste in any shipment without a permit as well.

Destination facilities must comply with all applicable requirements of 6 NYCRR Parts 370 through 374-3 and 376, including notification of hazardous waste activity and obtaining a Part 373 hazardous waste permit, if applicable.

Regulatory Requirements for Fluorescent Lamps

Currently, most waste fluorescent bulbs are hazardous wastes due to their mercury content. Other examples of lamps that, when spent, are commonly classified as hazardous waste include high-intensity discharge, neon, mercury vapor, high pressure sodium and metal halide lamps. Low-mercury or green end cap lamps that pass the TCLP are not as regulated hazardous wastes but still contain mercury and are subject to the Mercury-Added Consumer Products Law, described above. The U.S. Environmental Protection Agency (EPA) added hazardous waste lamps to the Universal Waste Rule (64 FR 36465 -36490) in 1999; DEC then adopted these regulations in 2002.

Handlers of hazardous waste lamps are able to choose between handling their lamps under the traditional hazardous waste regulations or universal waste rule standards. However, once you declare your lamps universal wastes, you must continue to handle them as universal wastes. Jumping back and forth between the traditional RCRA approach and the Universal Waste Rule in order to avoid any requirements is prohibited.

More information on handling of fluorescent lamps and universal wastes can be found on the DEC web site at: <http://www.dec.ny.gov/chemical/8787.html>. You can also contact the Training and Technical Support Section of the Division of Environmental Remediation at (518) 402-9543.

Requirements for Fluorescent Bulb Crushers

Lamps being managed under the universal waste rule may not be crushed. If you wish to crush your lamps, you will need to manage the lamps under the traditional hazardous waste regulations. This will require that you count the weight of the lamps toward determining hazardous waste generator category, and you will be required to meet applicable generator, transporter and transfer facility standards. Crushing is considered a

form of hazardous waste treatment, and under ordinary hazardous waste generator regulations, hazardous waste lamps may only be crushed if the process is exempt from hazardous waste treatment regulations (6 NYCRR 373-1.1(d)(1)). The common exemptions that might be used are the on-site treatment by a conditionally exempt small quantity generator; the first step of a recycling process, if the lamps will be directed to a mercury recycler; or the treatment in the tank or container in which the lamps are being stored. The crushed lamps are usually considered hazardous waste for mercury, and sometimes for lead, and must be handled and disposed of via normal hazardous waste requirements. Generators who wish to use one of the latter two exemptions should seek specific guidance from the DEC Training and Technical Support Section at (518) 402-9553.

Scrap Metal Exemption for Used Electronics

Most discarded electronics that would qualify as hazardous waste (e.g., computer monitors) are considered to contain sufficient quantities of scrap metal parts that they can be regarded as scrap metal themselves, and, thus, would be exempted from regulation (scrap metal exemption) as hazardous waste. The following conditions must be met:

- ▶ Prior Notification [6 NYCRR 371.1(c)(7)]: If the generator is not a CESQG, both the generator and subsequent handlers in the recycling process in New York State are required to submit a "c7" notification to DEC. The "c7" notification gives certain basic information, such as the locations of generating and receiving facilities. Although written concurrence from DEC is not required, DEC will provide one upon request (provided the electronics item, in fact, qualifies for the exemption).
- ▶ Scrap metal must ultimately be recycled. The scrap metal exemption requires that scrap metal pieces actually be reclaimed from the hazardous electronics and that they are recycled.

Note that the scrap metal exemption cannot apply to a part separated from the whole component unless that separated part independently contains scrap metal pieces that will ultimately be reclaimed. For example, an all-plastic case that was separated from a computer monitor could no longer qualify for the scrap metal exemption, nor could cathode ray tube (CRT) glass, once the scrap metal pieces have been separated from the glass. An item which qualifies as hazardous scrap metal is still a hazardous waste. It is merely exempted from regulation.

MOST COMMON HAZARDOUS WASTE VIOLATIONS

1. 373-3.9(d)(3): Failure to mark containers holding hazardous waste with the words 'Hazardous Waste' and 'other words' to identify their contents. [SQG, LQG]
2. 372.2(a)(8)(iii)(d): Failure to mark containers holding hazardous waste with 'start of accumulation' date. [SQG]
3. 372.2(a)(8)(ii): Same as #2 but for an LQG.
4. 373-3.9(d)(1): Failure to keep containers holding hazardous waste closed during storage, except when it is necessary to add or remove waste. [SQG, LQG]
5. 372.2(b)(2)(i): No written communication from the designated TSD that they are authorized to handle the particular waste on the manifest. [SQG, LQG]
6. 372.2(b)(2)(ii): No written communication from the transporter that they are authorized to deliver the manifested waste to the designated TSD. [SQG, LQG]
7. 372.2(a)(2): Failure to make a hazardous waste determination on solid waste generated at a facility. [CESQG, SQG,LQG]
8. 372.2(a)(8)(iii)(e)(2): Failure to post the following information next to the telephone: name and telephone number of the emergency coordinator, location of fire extinguishers, spill control equipment and, if present, fire alarm; and telephone number of the fire department, unless the facility has a direct alarm. [SQG]
9. 374-3.2(e): Failure to mark Universal Waste as required. For example: Universal Waste Lamps. [Applies to a Small Quantity Handler or Universal Waste]
10. 374-3.3(e): Same as #9 but applies to a Large Quantity Handler.
11. 374-3.2(f): No method for determining how long Universal Waste has been stored on-site. [Applies to a Small Quantity Handler]
12. 374-3.3(f): same as #11 but applies to a Large Quantity Handler.

SOME COMMONLY ASKED QUESTIONS ?????????????????????????????????

Q *How should I dispose of my fluorescent lamps?*

A Fluorescent bulbs contain mercury and should not be discarded in dumpsters. Instead, it is recommended that **intact** fluorescent bulbs be recycled as a universal waste. If the fluorescent bulbs are broken or crushed, they will have to be treated and disposed of as hazardous waste. For more information, check the DEC website at: www.dec.ny.gov/chemical/8787.html Fluorescent light ballasts are not hazardous wastes, at least not for PCB content. Leaking ballasts are regulated by EPA under the Toxic Substance Control Act (TSCA). You can obtain a list of fluorescent bulb recyclers at: www.dec.ny.gov/chemical/9089.html

Q *I have several drums of a product that our school can no longer use. Do I have to discard this as a waste?*

A If a useable product (e.g., pesticides, stain, and varnish, solvent) is no longer needed, it can, in most cases, be given or exchanged to another school. If the product cannot be transferred to another party (continued use) and you must discard the product, then this would be considered a waste and must be managed as such. Some schools do not want to give away their unusable products because they are concerned about the liability of this product being discarded illegally, especially if the waste is hazardous. Giving away a useable product does not necessarily constitute generating a waste, in which case, the new owner would become liable for any illegal waste disposal. Remember, good record keeping is always a good management practice.

Q *I am a contractor and will be doing a lead abatement project. I will be removing construction and demolition (C&D) debris from schools that contain lead paint. Where do I discard this material?*

A You must first determine if the lead contaminated C&D material is hazardous by performing a toxicity characteristic leaching procedure (TCLP) test. A list of certified labs can be obtained by calling (800) 462-6553. If the material fails the test for lead, then it must be disposed as a hazardous waste. If the material passes the test and is not considered to be hazardous, you can make arrangements to dispose this waste as C&D material, only if the paint remains intact. When you perform the TCLP test on this or any other material, remember to take a representative sample to the lab for testing. For instance, in the case of a 2X4 or piece of sheet rock, take a core sample that includes the paint as well as the wood or sheet rock.

Q *I am a contractor and would like to know if I have to comply with any regulations when I remove asbestos? Also, can I bring this to my local landfill for disposal?*

A The removal of asbestos is regulated by the New York State Department of Labor, Asbestos Control Bureau. All contractors must be licensed and all asbestos handlers must be certified by the Department of Labor's License and Certificate Unit.

Other phone numbers:

Albany - (518) 457-2072

Syracuse - (315) 479-3215

Buffalo - (716) 847-7601

New York City - (212) 775-3532

After the asbestos is removed, it must be disposed of at a NYSDEC-permitted solid waste landfill authorized to accept asbestos waste. Some landfills have restricted delivery so they can dedicate staff for proper placement and some may not accept any asbestos waste.

Q I am a CESQG and would like to know if DEC could recommend a different waste hauler to transport my hazardous waste?

A DEC cannot recommend a specific waste hauler for your school. However, you can obtain a list of NYSDEC approved Part 364 haulers by calling (518) 402-8792. Did you know that CESQGs can transport up to 220 pounds of hazardous waste at one time to an approved DEC facility? This includes the five household hazardous waste permitted facilities located in New York State. See Section IV, page 54) for names and locations. By transporting your waste to one of these household hazardous waste facilities, you could save up to 60 percent of your disposal fees. In addition, your liability will decrease dramatically.

Q We have many jars of biological specimens preserved in formaldehyde we would like to get rid of. The DEC Clean Sweep people called me and said that they will accept the formaldehyde but not the preserved specimen. What should I do with the biological waste?

A The biological waste can be bagged then deposited into your trash container. You can check with your publically-owned treatment waste facility (POTW) to see if it is okay to dilute the formaldehyde liquid with water and flush down the sink. However, we strongly suggest you contact a hazardous waste hauler to pick up this liquid waste. Note: preserved specimen suppliers (to schools) discontinued the use of formaldehyde preserved specimens in the early 1990's. It is likely that any purchases made after 1990 do not contain any formaldehyde or are below the 1% limit for exclusion as a hazard waste. Preserved specimens in formaldehyde-free suspensions can be bagged and disposed into the trash. *If on a septic system, check with your plant operator before putting anything down the drain.*

Q I was fined for discarding my used shop towels in the trash. Why can't I throw my shop towels in the normal trash, and what can I do as an alternative?

A Rags that are discarded at your shop may contain solvents and stains that are listed or characteristically hazardous, specifically for ignitability. In order to comply with DEC regulations, you should perform a toxicity characteristic leaching procedure (TCLP) test on your rags if you choose to discard them in the trash. (See Appendix II, page 59 for explanation of TCLP.) If the TCLP test fails, you must dispose of them as a hazardous waste. As an alternative, you can have your rags sent to an industrial laundry service. Your rags must be managed as a hazardous waste until they are placed on the laundry truck. In addition, rags that are sent for laundry service must not contain any free liquids.

Q In the school's bus and vehicle maintenance garage, there has been a lot of talk that it is illegal to have floor drains in the facility. Is this true?

A No. However, you should realize that it is illegal to discharge directly to ground or surface waters in the state. This means that if your school's floor drains are not connected to a publicly owned treatment works (POTW) or some type of holding tank, you are in violation of the Environmental Conservation Law. In addition, if your floor drains are connected to a POTW, you may be required to have an oil/water separator. To find out your requirements, check with your local POTW.

Q At the end of the school year, sometimes there are unused epi pens left in the nurse's office. Are they considered P-listed waste and does that then mean we are now large quantity generators of hazardous waste?

A Epinephrine is considered to be an acutely hazardous waste, listed by the Resource Conservation and Recovery Act (RCRA) hazardous waste regulations as a P-listed waste (P042). Generation of a P-listed would then classify your generator status as a large quantity generator. However, in October 15, 2007, the United States Environmental Protection Agency (EPA) wrote a clarification that the listing of epinephrine as an acute hazardous waste (P042) refers only to the base compound epinephrine and does not include its salts. (i.e. epi pens) While epinephrine salts are not listed wastes when discarded, a chemical or formulation containing an epinephrine salt can be a RCRA hazardous waste if it exhibits a characteristic of hazardous waste. DEC strongly recommends that schools still take care to properly manage the disposal of this type of medical waste so as to avoid any health, safety, environmental exposures and liability issues.

Water Regulations

Your school may have to comply with certain regulations under the Clean Water Act. The Clean Water Act simply states that it is illegal to discharge pollutants to surface or groundwater without a permit. Since the 1972 Clean Water Act, a staggering tonnage of conventional and toxic pollutants have been prevented from entering our waters. One way in which pollutants were prevented from entering New York State waters was through the stream reclassification system. Since 1972, many rivers, streams, and lakes have been reclassified to a higher usage which meant that anyone discharging to these bodies of water must meet the new water quality standards. This eventually led to less pollutants being discharged to our waterways.

NONPOINT SOURCE PROGRAM

In addition to direct (point source) discharges, the waters of the state can also be polluted by non-point source pollution. Types of non-point source pollution can include: inactive hazardous waste sites, leaking above ground or underground storage tanks, remediation of contaminated sediment, septic systems, and storm water management.

Storm Water Discharges

Stormwater is a major source of water pollution in New York State. A common misconception about storm sewers is that they go to a wastewater treatment plant. This is not always the case.

Storm sewers often transport storm water directly to the nearest river, lake, stream, wetland or groundwater recharge basin. Federal regulations published on November 16, 1990, have broadened the scope of activities that require discharge permits.

Some of the types of activities defined in 40CFR section 122.26(b)(14) for which storm water permits are required are:

- Construction activities
- Hazardous waste treatment or storage facilities
- Solid waste management facilities
- Facilities involved in the recycling of materials, including metal scrap yards, battery reclaimers, salvage yards, and automobile junkyards
- Electric power generating facilities
- Transportation facilities
- Sewage treatment works
- Certain Standard Industrial Classification Codes that are assigned to businesses

Stormwater discharges from urbanized areas are regulated under the Municipal Separate Storm Sewer System (MS4) program. Construction activities and several other industrial activities also are required to gain coverage under the State Pollutant Discharge Elimination System (SPDES) to be able to discharge to the waters of New York.

Stormwater associated with such activities are discharged through the conveyance systems of the municipalities or the collection systems of industries. Under the SPDES program, the permittees develop a program which ensures that stormwater runoff is either treated before discharge or it is prevented from becoming polluted.

General SPDES Permits

The SPDES permits that provide coverage for stormwater discharges from municipal, construction, or multi-sector type activities are general permits. The stormwater general permits require dischargers to develop stormwater pollution prevention plans, implement the measurements in the plans, maintain the systems, and keep their plans up-to-date. The plan must include best management practices to be used to control the pollutant load in storm water discharges to state waters.

For information on the stormwater go to: www.dec.ny.gov/chemical/8468.html or on the State Pollutant Discharge Elimination System (SPDES) go to: www.dec.ny.gov/permits/6054.html

Best Management Practices (BMPS)

Best management practices (BMPs) are recognized as an important part of the Clean Water Act's permitting process to prevent the release of toxic and hazardous chemicals. Best management practices are considered to be pollution prevention practices. By focusing on good housekeeping and good management techniques, BMPs will avoid leaks, spills, and improper waste disposal into our waters. For more information on how you can develop a BMP at your school, call the Division of Water at the number listed in Section IV.

Air Regulations

This section of the manual will give a brief overview of the air regulations pertinent to schools. For more in-depth explanations of all the air regulations, we suggest that you contact your DEC regional office, or one of the technical assistance organizations listed in Section IV of this manual.

If your school operates a boiler or other process that emit air contaminants to the outdoor air, there may be certain air regulations that you will have to comply with.

In New York State the air regulations may vary from region to region and distinguish between the **New York City Metropolitan Area** and upstate New York. The New York City Metropolitan Area consists of New York City, Rockland, Nassau, Suffolk, and Westchester. **The Lower Orange County Metropolitan Area** includes the Towns of Blooming Grove, Chester, Highlands, Monroe, Tuxedo, Warwick, and Woodbury. Upstate refers to areas outside of these two metropolitan areas.

Many schools are subject to new requirements as a result of the 1990 federal Clean Air Act Amendments. Depending on the amount of air emissions your school emits, you may be required to obtain a Title V Permit, State Facility Permit or Minor Facility Registration. Some processes that may be affected include:

- Degreasing and parts cleaning operations
- Air conditioning repair operations
- Graphic arts/printing operations
- Petroleum bulk storage (gasoline)
- Architectural Coatings (coatings used for gym floors)
- Auto body refinishing operations
- Large boilers and/or generators

VOLATILE ORGANIC COMPOUNDS (VOCs)

Volatile organic compounds (VOCs) are any organic compound which produces photochemical reactions in the atmosphere. VOCs are regulated by DEC in order to reduce ground-level ozone. Some solvents and degreasers, such as trichloroethylene, methyl ethyl ketone and more common solvents like toluene and xylene are VOCs.

PERMITTING REQUIREMENTS

DEC's new air quality permit and registration program, as outlined in 6 NYCRR Part 201, assures that air quality regulations are being followed properly. One of the changes involves a three-tier air permitting system:

- **Minor Facility Registration** - This is intended for facilities with low emission levels. Sources that are subject to regulation for volatile organic compounds (VOCs), such as printing and surface coating operations, and **existing** sources subject to New Source Performance Standards (NSPS) or National Emission Standards for Hazardous Air Pollutants (NESHAP), whose actual air emissions are less than half of the major source thresholds, are eligible. Registration is valid for the life of the stationary source and is not subject to a renewal process. Grade school and high school boilers usually qualify for registration.
- **State Facility Permit** - This permit would apply to those sources requiring an emissions cap below major source thresholds. Also, new minor facilities that are subject to NSPS and NESHAPs must obtain this permit. This would include new sources such as dry cleaners, chrome plating processes, and halogenated solvent degreasing operations. The permit application requires a significant amount of detail about the process being permitted. State facility operating permits do not expire and only need to be modified if a change at the facility triggers a new requirement. Universities/colleges have larger boilers that may require a State Facility Permit.
- **Title V Permits** - This permit is intended for major sources of air pollution and requires the applicant to identify each applicable federal and state requirement. Large university/college campuses have large boilers that may require a Title V Permit.

EXEMPTIONS

As long as a school does not trigger Title V, many school's individual processes are **exempt** from permitting altogether, including:

- Graphic arts facilities located outside the New York City Metropolitan Area with VOC emissions that do not exceed 20 pounds per day.
- Screen printing inks, coatings, and adhesives (containing VOCs) that are applied

- by a hand-held squeegee.
- All process emission sources which are located at private, public, or vocational education institutions, where the emissions are the result of teaching and training exercises, and the institution is not engaged in the manufacture of products for commercial sale in commerce, except in *de minimus* manner.
 - Research and development activities
 - Emergency power generating stationary internal combustion engines. Stationary internal combustion engines that operate as a mechanical or electrical power source only when the usual supply of power is unavailable, and operates for no more than 500 hours per year.
 - Powder coating operations
 - Paint and solvent storage rooms
 - Aqueous parts cleaning equipment
 - Most maintenance and construction activities; (i.e. welding, sandblasting)

As a rule of thumb, it is always a good idea to maintain records of all your VOC emissions.

CHEMICAL AND PETROLEUM STORAGE

STORAGE TANK BACKGROUND INFORMATION

Tanks storing petroleum and hazardous chemicals must meet minimum standards established by the EPA and the DEC. New York's Bulk Storage Programs provide guidelines and controls for the storage of petroleum and many different hazardous chemicals.

Improper handling and storage of petroleum and hazardous chemicals can result in leaks and spills and pose a serious threat to the quality of the environment. Petroleum, additives and a variety of industrial chemicals have been discovered in many of the State's groundwater supplies. In some wells, only trace quantities have been discovered; in others, levels have exceeded federal and State drinking water standards. Hundreds of drinking water supplies have been closed because of excessive contamination.

Water contamination is only one consequence of poor handling practices.

Mismanagement of some substances may pose occupational hazards, such as a potential for fire or explosion risk that may result in a release of odors or fumes with serious public health and environmental consequences to the neighboring community.

Gasoline, which fuels the millions of automobiles we all drive each day, is highly flammable and can flash violently when ignited. Gasoline and many other hazardous chemicals when inhaled can cause drowsiness, nausea and other adverse health effects.

Once a chemical soaks into the ground, it disperses and may dissolve and contaminate a water supply for many years. Cleanup is often difficult and it is usually expensive.

When it comes to handling hazardous materials, there is truth in the old saying - "*An ounce of prevention is worth a pound of cure.*" For every dollar spent on preventing a spill, many dollars are saved in cleanup cost and damages.

New York State prevents leaks and spills at petroleum and chemical storage facilities through the Bulk Storage Program managed by DEC. The Bulk Storage Program is based on four laws. There are State laws that require DEC to develop and enforce standards for storage and handling of petroleum and chemical products and to regulate aboveground and underground tanks storing these products. New York State four regulatory programs are:

- Petroleum Tanks
- Chemical Tanks
- Major Oil Storage Facilities – These facilities are not covered in this manual.
- Federal Underground Tank Regulations - This program is based on a federal law amending RCRA (Subtitle I) requiring the EPA to regulate underground storage tanks (USTs). Under the memorandum of understanding with EPA, DEC assists in the regulation and inspection of approximately 20,000 underground tanks covered by Subtitle I, provides education to tank owners and encourages compliance with federal regulations.

The laws and requirements that apply will be different depending on whether a tank is used to store chemicals or petroleum.

The following are some definitions to keep in mind:

Petroleum means: "a. crude oil and any fraction thereof; b. any mixture containing crude oil or any fraction thereof; and c. synthetic forms of lubricating oil, dielectric oils, insulating oils, hydraulic oils and cutting oils. Such term shall not include: (1) hazardous waste defined pursuant to section 27-0903 of the Environmental Conservation Law; (2) substances meeting the definition of hazardous substance pursuant to section 40-0105 of the Environmental Conservation Law; (3) animal or vegetable oils that do not contain crude oil or fractions thereof; or (4) substances that are gases at standard temperature and pressure."

Tank means "a stationary device designed to store hazardous chemicals or petroleum, which is constructed of non-earthen materials that provide structural support. The term "tank" includes all associated pipes, lines, fixtures and other ancillary equipment. The term "tank" does not include septic tank; surface impoundment, pit, pond or lagoon; storm-water or wastewater collection system; flow-through process tank; or liquid trap or associated gathering lines directly related to oil or gas production and gathering operations."

"Aboveground storage tank" (AST) means any stationary tank with a capacity of 185 gallons or more which is not entirely covered with earth or other backfill material, or any stationary tank with a capacity of 185 gallons or more which can be inspected in a subterranean vault.

"Underground storage tank" (UST) means any tank or other vessel used for the storage of a hazardous substance which is completely covered with earth or other backfill material. Tanks in subterranean vaults accessible for visual inspection are considered aboveground tanks for the purposes of these regulations.

CHEMICAL STORAGE TANK REQUIREMENTS

Article 37 of the Environmental Conservation Law requires DEC to regulate all substances covered by the Federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), and Federal Toxic Substances Control Act (FTSCA). DEC may also regulate other chemicals known to be hazardous. Article 40 of the Environmental Conservation Law, Hazardous Substances Bulk Storage Act, regulates the sale, storage and handling of hazardous substances.

The Chemical Bulk Storage Regulations (6NYCRR Parts 595-599) cover:

- Over 1,000 listed substances;
- Requirements for release reporting, response and corrective action;
- Requirements for chemical manufacturers/distributors to supply buyers with guidance on proper storage and handling of chemicals and to file the guidance with DEC;
- New storage equipment (tanks, pipes, transfer stations and associated equipment); and
- Tank and pipe testing and inspection requirements.

Regulation (6 NYCRR 598.6(b)) provides inspection requirements for USTs used for chemical storage.

Regulation (6 NYCRR 598.7(c)) requires a five-year inspection of all aboveground storage tanks (ASTs) and piping. Owners/operators are required to inspect ASTs and piping systems on a five-year cycle. A shorter cycle is required when a tank or pipe is thinning at a rate of one millimeter per year or greater or when the expected remaining useful life (as determined by inspection) is less than ten years. In either scenario, the inspection shall be performed at half the remaining useful life of the tank or pipe, but not to exceed a five year period. The regulation requires that the inspection be consistent with a consensus code, standard or practice that is developed by a nationally recognized association or independent testing laboratory and meet the specifications of 6 NYCRR 598.7(d).

DEC has set up policy, DER-16: Five-Year Inspection of Plastic Tanks, to provide guidance on the evaluation of homogeneous plastic tank systems. Homogeneous plastic tanks are tanks that are molded in one-piece seamless construction using a single plastic material. This excludes tanks constructed of fiberglass.

Currently there is no inspection consensus code, standard or practice that has been developed by a nationally recognized association or independent testing laboratory for plastic tanks. In recognition of this, DEC provides guidance on the inspection of plastic tanks. See: <http://www.dec.ny.gov/regulations/38102.html>

Please refer to the DEC's web site <http://www.dec.ny.gov/chemical/287.html> for additional information and http://www.dec.ny.gov/docs/remediation_hudson_pdf/cbschecklist.pdf for the chemical bulk storage inspection form.

Important past due deadlines are:

- By August 11, 1996, owners were required to develop and keep up-to-date a plan for spill prevention. This is called a spill prevention report or "SPR." For a copy of the document **How to Prepare a Spill Prevention Report for a Chemical Bulk Storage Facility** go to: www.dec.ny.gov/docs/remediation_hudson_pdf/der26.pdf
- By December 22, 1998 underground tanks and piping systems were required to be replaced with double-walled systems.
- By December 22, 1999 aboveground tanks and transfer stations were required to have secondary containment and be upgraded to meet State standards.
- By December 22, 1999 non-stationary tanks were required to be stored in dedicated areas with spill containment.
- The transfer of hazardous substances is prohibited if the facility is unregistered or where the manufacturer/distributor fails to provide buyers with recommended practices and guidance on proper methods for storage and handling of such substances.

PETROLEUM STORAGE TANK REQUIREMENTS

Petroleum storage tanks are regulated by state law under Article 17, Title 10, and DEC regulations 6NYCRR 612-614. Both underground storage tanks (USTs) and above ground storage tanks (ASTs) are covered by these regulations. Nassau, Suffolk, Rockland, Westchester and Cortland Counties have been delegated by DEC to administer the program. These counties may have more stringent requirements than the State. If your business is located in one of these counties, contact the county to learn of specific local requirements.

All facilities regulated under Article 17, Title 10 must meet certain handling and storage requirements established by DEC. Underground storage tanks and ASTs must observe rules for spill prevention and leak detection. Certain ASTs must be provided with secondary containment (i.e., berms or other devices to contain spills).

6NYCRR 612-614 requires the registration of petroleum storage facilities with the DEC. Facilities must be re-registered every five years. Registration fees vary from \$100 to \$500 per facility, depending on the size of the tank.

Operators of USTs must keep daily inventory records, reconcile them on a 10 day basis (and maintain them for five years) and notify DEC and the tank owner within 48 hours of unexplained inventory losses. Unprotected tanks installed prior to 1986, such as bare steel, asphalt coated, or painted steel tanks, must be tested when 10 years old. Corrosion-resistant tanks without leak detection systems, such as fiberglass or cathodically protected tanks (steel protected against corrosion caused by contact with soil) must be tested when 15 years old. All tanks which require testing must be retested every five years from the date of the last test. Tanks and pipes which were installed corrosion-resistant and are equipped with leak monitoring systems do not require testing but do require periodic monitoring of the leak detection system and inventory monitoring.

Tanks that are temporarily out of service (30 days or more) must be drained of product to the lowest draw off point. Fill lines and gauge openings must be capped or plugged. Inspection and registration must continue. Those tanks that are permanently out of service must be emptied of liquid, sludge and vapors. The tanks that are permanently out of service must then either be removed or if left in place USTs must be filled with solid inert material such as sand or concrete slurry. DEC must be notified 30 days prior to filling or removal.

Part 614 applies to all new and modified facilities. New USTs must either be made of fiberglass reinforced plastic; cathodically protected steel; or steel clad with fiberglass reinforced plastic. Secondary containment such as a double-walled tank, or a vault, must be provided. If a tank is double-walled, weekly monitoring of the interstitial space is required, otherwise use of an in-tank monitoring system or one or more observation wells is required.

Operators of ASTs must conduct monthly visual inspections. Every 10 years they must clean out the tanks that are resting on grade, remove the sludge from the bottom, inspect for structural integrity and test for tightness.

New ASTs must be constructed of steel. If the tank bottom rests on the ground, the tank must have cathodic protection. An impermeable barrier must be installed under the tank bottom, with monitoring between the barrier and the bottom.

New underground piping systems must be designed with a 30-year life expectancy. If made of steel, they must be cathodically protected. Pipes may be constructed of fiberglass-reinforced plastic or other equivalent non-corrodible materials.

Please refer to the DEC's web site <http://www.dec.ny.gov/chemical/287.html> for additional information and http://www.dec.ny.gov/docs/remediation_hudson_pdf/pbsinvrec.pdf for the petroleum bulk storage inspection form.

CHEMICAL AND PETROLEUM SPILLS

Chemical (Hazardous Substances) Spill

Reporting requirements for regulated chemicals or hazardous substances and their reportable quantities are listed in 6 NYCRR Part 597. Any release, spill or overfill that equals or exceeds the “reportable quantity” of a regulated chemical, must be reported to DEC. To report these events, call the DEC Spill Response Hotline at 1-800-457-7362 within two hours of the release, spill or overfill.

In addition, releases of any amount of a regulated chemical (i.e., even if it is less than the reportable quantity) must be reported to DEC within two hours, if it is a release which may enter the environment and result in the following:

- A fire with off-site impacts;
- An explosion;
- Violation of air quality standards;
- Vapors, dust and/or gases that may cause illness or injury to people outside the shop; or
- Runoff from fire control or dilution waters that may cause or contribute to a violation of water quality standards.

The owner or operator must also take immediate action to protect human health, safety and the environment. You are not required to notify DEC within the two-hour time frame if a spill or overfill is captured in an appropriate secondary containment system, you contain the hazardous substance, and you expect to recover or account for the total volume of the spill within 24 hours. However, if the spill or overfill will not be completely contained and recovered or accounted for within 24 hours, or if the secondary containment allows the reportable quantity of chemical to reach the environment, DEC must be notified within 24 hours from the time the spill or overfill occurred. Suspected or probable releases to the environment also must be reported to the DEC hotline within 24 hours of discovery.

Petroleum Spill Reporting Requirements

Petroleum spills that occur within New York State must be reported to the New York State Spill Hotline at 1-800-457-7362 within two hours of discovery, unless they meet all of the following criteria:

- The quantity of the spill is known to be less than 5 gallons;
- The spill is contained and under the control of the spiller;
- The spill has not and will not reach the State’s water or any land, and;
- The spill is cleaned up within two hours of discovery.

A spill is considered to have not impacted land if it occurs on a paved surface such as asphalt or concrete and does not pass through to underlying soils. A spill in a dirt or gravel parking lot is considered to have impacted land and is reportable. Other federal and local agencies may also need to be notified, including the National Response Center at 1-800-424-8802, and your local fire and emergency response corps.

Section II - Description of Waste Streams

This section of the manual has been assembled to help schools in determining the EPA Hazardous Waste Codes for their wastes. These numbers are needed to complete the Notification of Regulated Waste Activity Form and the Manifest Form. For a complete list of waste codes, you should refer to 40 CFR Part 261 or 6NYCRR Part 371.

In those cases where more than one EPA Hazardous Waste Code is applicable, all should be used. If you have any questions, or if you are unable to determine the proper EPA Hazardous Waste Codes for your wastes, please contact the Training and Technical Support Section of the Division of Environmental Remediation at (518) 402-9543.

ACIDS/BASES

Acids, bases, or mixtures having a pH of 2 or less, or 12.5 or greater, are considered corrosive. For a complete description of corrosive wastes, see 40 CFR Part 261.22 or 6 NYCRR Part 371. All corrosive materials and solutions have the EPA Hazardous Waste Code D002. Some of the more commonly used corrosives are: Acetic Acid, Ammonium Hydroxide Oleum, Chromic Acid, Hydrobromic Acid, Hydrochloric Acid, Hydrofluoric Acid, Nitric Acid, Perchloric Acid, Phosphoric Acid, Potassium Hydroxide, Sodium Hydroxide, and Sulfuric Acid.

REACTIVES

Reactive waste includes reactive materials or mixtures which are unstable, react violently with or form explosive mixtures with water or air, generate toxic gases or vapors when mixed with water or air (or when exposed to pH conditions between 2 and 12.5 in the case of cyanide or sulfide bearing wastes), or are capable of detonation or explosive reaction when heated or subjected to shock (for a complete description of reactive wastes, see 40 CFR 261.23, Characteristic of Reactivity). Unless otherwise specified, all reactive wastes have the EPA Hazardous Waste Code D003. The following materials are commonly considered to be reactive: Acetyl Chloride; Chromic Acid; Cyanides; Hypochlorites; Organic Peroxides; Perchlorates; Permanganates; and Sulfides.

HEAVY METALS/INORGANICS

Heavy metals and other inorganic waste materials exhibit the characteristic of toxicity and are considered hazardous if they fail the TCLP. These wastes may include dusts, solutions, wastewater treatment sludges, paint wastes, waste inks, and other such materials that contain heavy metals/inorganics. Wastewater treatment sludges from electroplating operations are identified as Hazardous Waste Code F006. The following are toxic characteristic: Arsenic - D004, Barium - D005, Cadmium - D006, Chromium - D007, Lead - D008, **Mercury - D009***, Selenium - D010, and Silver - D011.

***MERCURY IN SCHOOLS**

According to the Environmental Conservation Law, Article 27, Title 21, elemental mercury is no longer allowed to be purchased or used in schools as of September 4, 2004.

Elemental mercury is a metallic, silvery liquid (also referred to as *quicksilver*) that is processed from an ore called cinnabar. It readily breaks into droplets and easily vaporizes at room temperature into an odorless, colorless vapor that can easily be inhaled.

Another type of mercury typically found in schools is inorganic mercury compounds. It is usually found as a white-powdered substance, such as (mercuric nitrate, mercuric oxide), typically used in school science laboratories. There are also mercury-containing devices such as thermometers, barometers, manometers, flow meters, mercury switches, mercury regulators, water treatment gauges, gas safety relays, sphygmomanometers (blood pressure cuffs), thermostats and all fluorescent lamps.

For more information on mercury management in schools refer to the DEC website at:

www.dec.ny.gov/chemical/285.html

SOLVENTS

Certain solvents, spent solvents, solvent mixtures, or solvent still bottoms may be hazardous. This includes solvents used in degreasing (identified as F001) and paint brush cleaning and distillation residues from reclamation. The following are some commonly used hazardous solvents:

Benzene - F005, D018
Carbon Disulfide - F005
Carbon Tetrachloride - F001, D019
Chlorobenzene - F002, F021
Cresols - F004, D026
Cresylic Acid - F002, D027
O-Dichlorobenzene - F002, D027
Ethanol - D001
2-Ethoxyethanol - F005
Ethylene Dichloride - D001
Isobutanol - F005
Isopropanol - D001
Kerosene - D001
Methyl Ethyl Ketone - F005, D035
Methylene Chloride - F001, F002
Naphtha - D001
Nitrobenzene - F004, D036 2-
Nitrobenzene - F004 Petroleum
Solvents - D001 Pyridine -
F005, D038
1,1,1- Trichloroethane - F001, F002

1,1,2- Trichloroethane - F002
Tetrachloroethylene
(Perchloroethylene) F001, F002, D039
Toluene - F005
Trichloroethylene - F001, F002, D040
Trichlorofluoromethane - F002
Trichlorotrifluoromethane (Valclene) - F002

Still residues containing petroleum solvents with a flashpoint less than 140 °F are considered hazardous and have the EPA Hazardous Waste Code D001.

IGNITABLE WASTES

Ignitable wastes include any liquids that have a flashpoint less than 140 F; any non-liquids that are capable of causing a fire by friction, absorption of moisture, or spontaneous chemical change; any ignitable compressed gas as described in 49 CFR 261.300 (for a complete description of ignitable wastes, see 40 CFR Part 261 or 6 NYCRR Part 371); or strong oxidizers. Examples are spent solvents (see also "solvents"), solvent still bottoms, ignitable paint wastes (paint removers, brush cleaners and stripping agents), epoxy resins and adhesives (epoxies, rubber cements and marine glues), and waste inks containing flammable solvents. Unless otherwise specified, all ignitable wastes have the EPA Hazardous Waste Code of D001. Some commonly used ignitable compounds are:

Acetone - F003
Benzene - F005 and D018 n-
Butyl Alcohol - F003
Chlorobenzene - F002 and D021
Cyclohexanone - F003
Ethyl Acetate - F003
Ethylbenzene - F003
Ethyl Ether - F003
Ethylene Dichloride - D001
Methanol - F003
Methyl Isobutyl Ketone - F003
Petroleum Distillates - D001 and Xylene - F003

INK SLUDGES CONTAINING CHROMIUM AND LEAD

This includes 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. All ink sludges have the EPA Hazardous Waste Code K086 and may also have the EPA Hazardous Waste Codes D007 and/or D008.

LEAD-ACID BATTERIES

Used lead-acid batteries should only be reported on the notification form if they are not being recycled. Used lead-acid batteries that are recycled do not need to be counted in

determining the quantity of waste that you generate per month, nor do they require a hazardous waste manifest when shipped off your premises. Lead Dross (D008); Spent Acids (D002); Lead-Acid Batteries (D008).

SPENT PLATING AND CYANIDE WASTES

Spent plating wastes contain cleaning solutions and plating solutions with caustics, solvents, heavy metals, and cyanides. Cyanide wastes may also be generated from heat treatment operations, pigment production, and manufacturing of anti-caking agents. Plating wastes are generally Hazardous Waste Codes F006-F009. Cyanide heat treating wastes are generally Hazardous Waste Codes F010-F012. See 40 CFR 261.32 for a more complete description.

WOOD PRESERVING AGENTS

The wastewater treatment sludges from wastewater treatment operations at facilities that use wood preserving agents are considered hazardous. Bottom sediment sludges from the treatment of wastewater processes that use creosote and pentachlorophenol have the EPA Waste Code K001. In addition, unless otherwise indicated, specific wood preserving compounds are: Chromated Copper Arsenate - D004, Creosote - U051 and Pentachlorophenol - F027.

PESTICIDES

The pesticides listed in Table 3, page 43, are hazardous. Wastes marked with an asterisk (*) have been designated acutely hazardous. For a more complete listing, see 40 CFR 261.32 and 261.33, or 6 NYCRR Part 371 for specific listed pesticides and other wastes, wastewaters, sludges, and byproducts from pesticide formulators. Even though many of these pesticides are no longer in common use, they are included here for those cases where they may be found in storage.

TABLE 3 – Pesticides That Are Hazardous Waste

Aldicarb*	P070	Dinoseb*	P020	Parathion*	P089
Aldrin*	P004	Disodium Monomethane arsenate	D004	Pentachloro-nitrobenzene	U185
Armitrole	U011	Disulfoton*	P039	Pentachlorophenol	U242
Arsenic Pentoxide*	P011	Endosulfan*	P050	Phenylmercuric Acetate	D009
Arsenic Trioxide*	P012	Endrin*	P051	Phorate*	P094
Cacodylic Acid*	U136	Ethylmercuric Chloride	D009	Strychnine*	P108
Carbamic Acid, Methyl nitro Ethyl Ester	U178	Famphur*	P097	2,4,5-Trichloro phenoxy Acetic Acid	U232
Chlordane	U036	Heptachlor*	P059	2-(2,4,5-Trichloro phenoxy) Propionic Acid	U233
Copper Cyanides*	P029	Hexachloro-benzene	U127	Thallium sulfate*	P115
1,2-Dibromo-3-chloropropane	U066	Kepone	U142	Thiram	U244
1,2-Dichloropropane	U083	Lindane	U129	Toxaphene*	P123
1,3-Dichloropropene	U084	2-Methoxy Mercuric Chloride	D009	Warfarin	U248
2,4-Dichlorophenoxy Acetic Acid	U240	Methoxychlor	D014		
DDT	U061	Methyl Parathion*	P071		

* Acutely Hazardous

Section III – Best Management Practices

WASTE MINIMIZATION

The most cost-effective way of managing any waste is to not generate it in the first place. Pollution prevention or waste reduction methods can be used by schools. Schools can decrease the amount of hazardous waste produced by developing good housekeeping, inventory control, employee training, and purchasing practices.

An important step in minimizing your hazardous waste generation is to be aware of which chemicals you use at your school. For example, by monitoring your use of different chemicals, you may recognize opportunities to switch to less-hazardous materials.

If a school is a Small Quantity Generator of hazardous waste, as part of their hazardous waste manifest, they must sign a certification on the manifest form stating, *“I have made a good faith effort to minimize my waste and select the best management method that is available to me and that I can afford.”* Large Quantity Generators have to sign a similar certification. DEC has developed a guidance document which will help Small Quantity Generators minimize their hazardous waste. Contact the DEC Training and Technical Support Section of the Division of Environmental Remediation at (518) 402-9543 for a copy of this guidance.

If your school is just starting a pollution prevention program, start with some easy and inexpensive practices. Some of the easiest and least-expensive practices produce the most effective results.

MANAGEMENT PRACTICES

Good management of waste, especially hazardous waste, often saves schools money. Management practices include: good housekeeping, inventory control, employee training, use of material safety data sheets (MSDS), preventive maintenance and spill response planning. After reading the ideas listed below, you will notice that your school will require little or no capital expense to practice these best management practices. You may have to spend a little extra time to familiarize yourself with some new ideas and procedures.

Good Housekeeping

If your operation is clean and orderly, there is better control over materials and equipment and less likelihood of spills. The result is less waste generation. Here are some basic good housekeeping guidelines:

- Don't mix hazardous wastes with nonhazardous wastes. This increases the amount of waste that must be disposed of as a hazardous waste.
- Designate appropriate storage areas for all equipment, materials, and wastes.

- Require every employee/teacher to return all materials and equipment to their designated area.
- Use drip pans for equipment cleaning to avoid having to clean up spills.
- Keep containers of solvents, paint thinners and other materials closed when not in use to avoid losing valuable raw materials to the air.
- Keep different types of wastes separate since this practice may increase the possibility of recycling.
- Establish a procedure and a schedule to inspect chemical receiving, storage, and mixing areas for cleanliness and neatness.

Inventory Control

It is vital that schools have an up-to-date inventory of its chemicals. Any school that stores chemicals must conduct an annual inventory of their chemicals.

Managing the chemical inventory includes rotating the stock so that the oldest is used first. Some materials break down over extended storage time and thus may become unusable. When these products are discarded, they may become hazardous wastes. To avoid having to dispose of unused materials, incorporate the following into your supply procedures:

- Order materials on an as-needed basis. If ordering in bulk, check with your vendors to see if they will take back unused portions.
- Mark the purchase date on containers and use older materials first.
- Control the use of hazardous materials so that these materials are not used unnecessarily when a substitute would work as well.
- Don't use solvents if there are effective substitutes such as detergents (e.g., for hand cleaning, floor cleaning).
- Try to use one multipurpose solvent rather than several different solvents. This will increase the recycling potential of the spent solvent. It will also permit you to buy the multipurpose solvent in bulk, thereby saving money.

Employee Training

Staff should be trained to recognize waste reduction opportunities and should be instructed not create waste in the work area.

Training employees about the efficient use of chemicals that may become hazardous wastes can help to reduce the amount of waste generated. For example, if a school uses paint thinner or solvent, you can minimize the waste that is generated by:

- Stressing the need to use the minimal amount of paint thinner to get the job done.
- Reusing solvent until it is no longer useable.
- Using your spent solvent as paint thinner.

The Role of the Chemical Hygiene Officer

Every school in New York State should have designated a chemical hygiene officer responsible for the chemical management of school science labs. It is vital that the chemical hygiene officer has proper training in accordance with OSHA Laboratory Standard 29CFR 1910.1450. While it cannot be assumed that the person designated to be the school's chemical hygiene officer has a background in chemistry or in chemical health & safety, adequate training should be provided.

The chemical hygiene officer has the responsibility to conduct and manage a chemical inventory, evaluating chemicals for proper storage and labeling, what is appropriate in quantity, what is excess and how to dispose of waste chemicals. There are also safety considerations when reviewing chemical inventory such as, what chemicals are potentially explosive or reactive, are there known carcinogens, pharmaceuticals, broken or leaking containers.

DUTIES OF A CHEMICAL HYGIENE OFFICER

1. Work with administrators and other employees to develop and implement appropriate chemical hygiene policies and practices;
2. Monitor procurement, use and disposal of chemicals used in the lab;
3. Review all P.O.s that include chemical reagents;
4. Review all lab procedures, including all new procedures to be introduced;
5. Ensure that staff training and facilities are adequate for materials ordered;
6. Ensure all MSDS forms are available and current;
7. See that appropriate audits are maintained;
8. Help building safety chairperson, principals and department chairs to develop precautions and adequate facilities;
9. Know the current legal requirements concerning regulated substances;
10. Seek ways to improve the chemical hygiene plan;
11. Ensure that workers know and follow the chemical hygiene rules;
12. Provide adequate training for all workers regarding safety, chemical hygiene and chemical hazards;
13. Determine the appropriate protective equipment required; ensure that it is available and in good working order;
14. Provide regular, formal, chemical hygiene and housekeeping inspections:
 - A. Stockrooms and storerooms
 - B. Lab ventilation
 - C. Sinks and clean up areas
15. Regularly inspect all safety and emergency equipment to ensure it is in good working order:
 - A. Fume hoods
 - B. Fire equipment
 - C. Eye stations and deluge showers
 - D. Protective apparel
16. Maintain records:
 - A. Training
 - B. Inspections
 - C. Medical
 - D. Inventory
 - E. Accidents and spills

Safety Data Sheets

Safety Data Sheets (SDS) provide valuable health and safety information about the chemicals being used in your school and is a must when conducting a thorough chemical inventory. SDS will also provide information that will enable you to determine if a material, when disposed, will be a hazardous waste.

Obtaining copies of SDS from your vendors prior to purchase will allow you to have more control over whether or not your school will generate hazardous waste. Make sure there is a SDS on file for every chemical that is used at your school. Most chemical companies or vendors will fax you a SDS. SDSs are also available online.

Preventive Maintenance

Preventive maintenance programs extend the life of your equipment, keep equipment optimized, minimize downtime, and provide a safe working environment. Practice preventive maintenance of equipment to reduce spills or leaks of materials which may then need to be disposed as hazardous wastes. Use the recommendations found in the equipment's operating manual as a starting point to develop and implement a preventive maintenance program. To develop and implement a preventive maintenance program:

- Identify equipment, systems, and structures to which a preventive maintenance program should apply.
- Determine appropriate preventive maintenance activities and the schedule for this maintenance.
- Perform the preventive maintenance activities.
- Keep all the preventive maintenance records on file.

Spill Response Planning

Any time that a solution is unintentionally released it is a spill. If a container holding a solvent, petroleum product or other hazardous material is dropped on the floor and leaks on the ground, it is an unintentional spill. Most spills are minor spills and could be cleaned up with a paper towel, mop or sponge. Larger spills may require special clean-up materials and procedures, or even require professional services for assistance. Consult the MSDS before attempting to clean any spill.

A good spill response plan will help minimize the effect of the spill on the environment and reduces liability for cleanup costs and possible bodily injury. Keeping chemical and waste storage areas safe and secure can minimize spills. Here are some basic guidelines to include in your spill response planning:

- Make sure there is a copy on hand of an inventory of all the chemicals used at your school.
- Check to see that there is proper containment around all chemical containers. All employees should be familiar with the containment areas in case there is a leak or rupture.
- Make a floor plan showing the location of all chemicals in the facilities, floor drains, exits, fire extinguishers and spill response supplies.

- Make a list of all the spill response supplies and equipment such as mop, pail, sponge, absorbent materials, neutralizing materials and personal protective equipment.
- Post the spill response plan is posted in the chemical storage/mixing area.
- Make sure there is always someone trained in spill response procedures at your school, this might be the chemical hygiene officer, or a health and safety person from BOCES or environmental health & safety person from your city school system, or even a maintenance person who can be contacted if needed.
- Do not allow staff who has not been trained in hazard communication into areas where chemicals are used or stored.

BROKEN FLUORESCENT LAMP CLEAN UP

Open a window and leave the room for 15 minutes or more

- DO NOT vacuum or sweep up broken items
- Use disposable rubber gloves, if available (i.e., do not use bare hands)
- Carefully scoop up the fragments and powder with stiff paper or cardboard or use a damp cloth to collect shards of glass and phosphor powder
- Place all spill cleanup materials in a puncture-resistant, sealed plastic container or bag
- Do not place broken lamps and clean-up materials in trash. Broken fluorescent lamps should be disposed of as hazardous waste; they cannot be disposed of as universal waste.
- If a fluorescent lamp breaks on a carpet, the contaminated section of the carpet must be cut out and disposed of appropriately as hazardous waste, or a professional mercury spill clean-up contractor may be called. They may have other safe, alternative methods to clean the carpet.

BEST MANAGEMENT PRACTICES

If your school is just starting a pollution prevention program, start with some easy and inexpensive practices. Some of the easiest and least-expensive practices produce the most-effective pollution prevention results. The best way to start on identifying pollution prevention process strategies is to list separately the modifications you are considering for each sector of your school.

Green Chemistry in Science Classrooms

Implementing the principles of Green Chemistry is an example of a type of pollution prevention strategy which can minimize the production of hazardous waste from being generated in school's science classrooms.

Green Chemistry is the use of chemical principles and methodologies for pollution prevention that was developed by Dr. John Warner (Warner Babcock Institute for Green Chemistry) and Dr. Paul Anastas (Yale Center for Green Chemistry). Green chemistry philosophy is about "Being Benign the First Time."

Warner and Anastas (**Green Chemistry: Theory and Practice**. Oxford University Press: New York, 1998) developed a guideline called the 12 Principles of Green Chemistry, to serve as a roadmap to chemists on how to implement green chemistry into their experiments. These principles are:

1. Prevention
2. Atom Economy
3. Less Hazardous Chemical Syntheses
4. Designing Safer Chemicals
5. Safer Solvents and Auxiliaries
6. Design for Energy Efficiency
7. Use of Renewable Feedstocks
8. Reduce Derivatives
9. Catalysis
10. Design for Degradation
11. Real-Time Analysis for Pollution Prevention
12. Safer Chemistry for Accident Prevention

Green chemistry challenges the chemist to ask the question, “*Why do I make things the way I do?*” Green chemistry is very much about looking at the whole process. The chemist is asked to look at the chemical reaction and everything that goes into it (materials, reagents, solvents) and then, look at everything that comes out of it, any by-products or waste (i.e. If you start with two reactants, do you incorporate both of them into your product or does 50% (an unwanted by-product) gets thrown away as waste?) “*Can I use a less toxic chemical to get to a similar end result without compromising curriculum goals?*”

Ultimately, using smaller quantities of chemicals or less hazardous chemicals can translate into reduced safety concerns about spills, storage and disposal of waste chemicals that are hazardous. Being green can save schools money that would have been spent on costs for disposing of hazardous waste.

For more information on Green Chemistry in New York State Schools, contact the DEC Materials Management’s Toxics Reduction Green Chemistry Section at the following email: greenchemistryinschools@gw.dec.state.ny.us or, check out the DEC green chemistry webpage: www.dec.ny.gov/education/77750.html

Integrated Pest Management (IPM) in School Facilities and Grounds

In 1995, the NYS Education Department required schools to adopt IMP policies and practices to prevent, reduce, or eliminate pesticide use, while still being able to effectively manage pests effectively.

IPM balances the concern for proper and minimal use of pesticides for children and others working in or using school buildings with the need to protect them from pest-induced health threats.

Preventing pest problems begins with identification of the pest, determining its sources, and assessing any risk posed by its presence. Long-term suppression of pests is promoted by eliminating sources of food, points of entry, and harborage areas. Only after these methods have been fully explored are pesticides considered.

Employing an IPM strategy can lead to substantial reduction in the use of pesticides and improvement in overall levels of control. Simply, IPM asks you to treat only when necessary and to use the safest available alternative to do the job.

For more information on IPM in schools, refer to:

<http://www.dec.ny.gov/chemical/42925.html>

Section IV - Resource Guide

The following organizations provide technical assistance, publish information, conduct or speak at workshops and conferences, and provide telephone, written and on-site information and assistance to improve environmental management.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

625 Broadway, Albany, NY 12233

www.dec.ny.gov

Division of Environmental Remediation

Hazardous Waste Regulation

(518) 402-9553

Small Quantity Generator Information

(518) 402-9553, Email: info.sqg@dec.ny.gov

Hazardous waste determinations and the small quantity generator information.

Division of Environmental Permits

(518) 402-9167

Outreach, workshops/training, pollution prevention, and environmental management systems.

Division of Air Resources

Stationary Sources

(518) 402-8403

Source review, permitting, NESHAP and toxics assessments.

Division of Water

Water Permits

(518) 402-8111

Management of the State Pollution Discharge Elimination System (SPDES) permit program, storm water discharges, the water resources programs, and the municipal water supply permit.

Division of Materials Management

Solid Waste Reduction & Recycling
(518) 402-8706

Waste tire program, the beneficial use program, the composting program and other solid waste recycling and waste reduction issues.

Petroleum Bulk Storage

(518) 402- 9553

Technical assistance on chemical and petroleum above/underground storage tanks.

Spill Response Hotline

(800) 457-7362

To report a spill of petroleum products or hazardous materials on land or water in New York State, call the hotline number. Companies are legally required to report a spill within 2 hours. Also, the National Response Center should be notified 1-800-424-8802.

DEC REGIONAL OFFICES

REGION 1 - Nassau & Suffolk Counties

50 Circle Road, SUNY at Stonybrook
Stony Brook, NY 11790
(631) 444-0345

REGION 2 - Bronx, Kings, New York, Queens and Richmond Counties

1 Hunters Point Plaza
47-40 21st Street
Long Island City, NY 11101
(718) 482-4900

REGION 3 - Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester Counties

21 South Putt Corners Road
New Paltz, NY 12561-1696
(845) 256-3000

REGION 4 - Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie Counties

1130 North Westcott Road
Schenectady, NY 12306-2014
(518) 357-2234

REGION 5 - Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren and Washington Counties

Route 86, PO Box 296
Ray Brook, NY 12977
(518) 897-1200

REGION 6 - Herkimer, Jefferson, Lewis, Oneida and St. Lawrence Counties

317 Washington Street
Watertown, NY 13601
(315) 785-2238

REGION 7 - Broome, Cayuga, Chenango, Cortland, Madison, Onondaga, Oswego, Tioga and Tompkins Counties
615 Erie Boulevard West
Syracuse, NY 13204-2400
(315) 426-7400

REGION 8 - Chemung, Genesee, Livingston, Monroe, Ontario, Orleans, Schuyler, Seneca, Steuben, Wayne and Yates Counties
6274 East Avon-Lima Road
Avon, NY 14414
(585) 226-2466

REGION 9 - Allegany, Cattaraugus, Chautauqua, Erie, Niagara and Wyoming Counties
270 Michigan Avenue
Buffalo, NY 14203-2999
(716) 851-7000

STATE AND LOCAL ASSISTANCE

Suffolk County Water Authority

4060 Sunrise Highway
Oakdale, New York
11769 (631) 589-5200
Provides confidential assistance to businesses in Suffolk County.

Erie County Office of Pollution Prevention

95 Franklin Street, Room 1077
Buffalo, NY 14202-3973
(716) 858-6370
Provides confidential assistance to businesses and the private sector in Erie County.

NYC Department of Environmental Protection

Environmental Economic
Development Assistance
Unit 59-17 Junction
Boulevard
Flushing, NY 11373
(212) 639-9675
Provides assistance to small businesses in New York City.

Broome County Division of Solid Waste Management

Edwin Crawford County Office
Building 44 Hawley Street
Binghamton, NY 13902
(607) 778-2250

Provides assistance to residents and businesses in Broome County.

Your county or town Department of Health, Public Works Office, or Environmental Management Council may also be able to provide you with information on local regulations and issues.

US ENVIRONMENTAL PROTECTION AGENCY

EPA Region II Office

Compliance Assistance Hotline
(212) 637-4050
290 Broadway, 21st Floor
New York, NY 10007-1866

Provides compliance assistance in EPA Region 2 area

EPA Headquarters

Office of Compliance (2224A)
1200 Pennsylvania Avenue, NW
Washington, DC 20460
Phone: (202) 564-2280
Fax: (202) 564-0027

Regulatory, technical, compliance and pollution prevention assistance.

Pollution Prevention Information Clearinghouse (PPIC)

PPIC-EPA
1200 Pennsylvania Avenue
Washington, DC 20460
Phone: (202) 566-0799
Fax: (202) 564-8899
E-mail: ppic@epa.gov

Provides a library and an electronic bulletin board dedicated to information on pollution prevention.

National Response Center

(800) 424-8802
For those without 800 access, please call 202.267.2675.

The National Response Center (NRC) is the sole federal point of contact for reporting oil and chemical spills. If you have a spill to report, contact us via our toll-free number or check out our Web Site for additional information on reporting requirements and procedures. The NRC operates 24 hours a day, 7 days a week, 365 days a year.

US Department of Transportation

Pipeline and Hazardous Materials Safety Administration

1200 New Jersey Avenue, SE East Building, 2nd Floor

Washington, DC 20590

Phone: 1-800-467-4922

Non-touch tone phone callers must use the telephone number 202-366-8553

Technical assistance on matters related to DOT's hazardous materials transportation regulations.

NEW YORK STATE PERMITTED HOUSEHOLD HAZARDOUS WASTE FACILITIES

If you are a Conditionally Exempt Small Quantity Generator and located in one of the following counties, you can call the number listed to make arrangements to bring your hazardous waste for disposal. Appointments are usually required.

Long Island

Town of Brookhaven

HHW Facility: 350 Horseblock Road at the Brookhaven Landfill, Brookhaven NY

Office: 3233 Route 112, Medford, NY 11763

631-451-6222

Town of Huntington

HHW Facility: 641 New York Avenue, Huntington, NY 11743 631-427-

6377

Hudson Valley Region

Rockland County Solid Waste Management Authority

HHW Facility: Fireman's Memorial Drive, Pomona, NY

Hotline: 845-364-2444

Office: 99 Torne Valley Road, Hillburn, NY 10931 845-753-

2200

Ulster County Resource Recovery Agency

HHW Facility: 401 Sawkill Road, Kingston, NY

Office: 999 Flatbush Rd./Rt. 32, P.O. Box 6219, Kingston, NY 12402-6219

914-336-0600

Capital Region

Schenectady County

HHW Facility: at the Schenectady County Farm, 24 Hetcheltown Road, Glenville NY

For an appointment to drop off HHW: 1-800-494-2273.

Office: Schenectady County Department of Economic Development and Planning,
Schaffer Heights, Suite 303, 107 Nott Terrace, Schenectady NY 12308 For info visit

<http://www.schenectadycounty.com/> or email jeff.edwards@schenectadycounty.com or call 518-386-2225.

NEW YORK STATE PERMITTED HOUSEHOLD HAZARDOUS WASTE FACILITIES (continued)

Central and Western NY

Oneida-Herkimer Solid Waste Authority

HHW Facility: A. Schuler Memorial Highway (Leland Ave. Extension) in N. Utica, NY

Office: 1600 Genesee Street, Utica, NY 13502

315-733-1224

Broome County

HHW Facility: the Broome County/Nanticoke Sanitary Landfill, Napp Road,
Binghamton, NY

For an appointment to drop off HHW: 607-763-4449

Office: P.O. Box 1766, Government Center, Binghamton, NY 13902 607-778-
6432

Tompkins County

HHW Facility: 122 Commercial Ave., Ithaca, NY 14850 607-273-
4496

Monroe County

HHW Facility: 444 East Henrietta Road, Rochester, New York 14620

Office: City Place, 50 West Main St., Suite 7100, Rochester, NY 14614

716-760-7600

Town of Tonawanda

450 Woodward Avenue, Kenmore, NY 14217

716-875-8822

RESOURCES ON THE INTERNET

Organization	Internet Address
Siena College <ul style="list-style-type: none"> Green Chemistry Summer Institute 	http://www.sienagreenchemistry.org
Beyond Benign <ul style="list-style-type: none"> Green Chemistry Curriculum (free) 	http://www.beyondbenign.org
American Chemical Society's Green Chemistry Institute for educators and students <ul style="list-style-type: none"> Experiments and Curriculum for download List of ACS books on Green Chemistry 	http://www.acs.org/greenchemistry
Greener Educational Materials (GEMS) Database thru the University of Oregon for educators and students <ul style="list-style-type: none"> Searchable database with Green Chemistry education materials uploaded by faculty members and educators worldwide Most curriculum is available for download (free) or with primary literature information 	http://greenchem.uoregon.edu/gems.html
GCEdNet-Green Chemistry Education Network	http://cmetim.ning.com/
University of Scranton Greening Across the Chemistry Curriculum <ul style="list-style-type: none"> Green Chemistry Modules for download 	http://www.scranton.edu/faculty/canm/green-chemistry/english/drefusmodules.shtml
Carnegie Mellon University Institute for Green Science <ul style="list-style-type: none"> Green Chemistry Modules for download 	http://igs.chem.cmu.edu/
<u>NEW YORK STATE DEPARTMENTS</u>	
NYS Department of Environmental Conservation <ul style="list-style-type: none"> Green Chemistry Mercury Management CleanSweep NY Project 	http://www.dec.ny.gov http://www.dec.ny.gov/education/77750.html http://www.dec.ny.gov/chemical/285.html http://www.dec.ny.gov/chemical/45366.html
NYS Education Department	http://www.p12.nysed.gov/facplan/
NYS Department of Health	http://www.health.ny.gov
NYS Department of General Office Services	http://www.ogs.ny.gov
<u>U.S. ENVIRONMENTAL PROTECTION AGENCY</u>	
Pollution Prevention and Toxics	http://www.epa.gov/oppt/
EPA Wastes - Partnerships - Schools Chemical Cleanout Campaign (SC3)	http://www.epa.gov/schools/chemicals
EPA Pollution Prevention (P2) Website	http://www.epa.gov/p2/
Office of Underground Storage Tanks	http://www.epa.gov/swerust1/
Pollution Prevention Information Clearinghouse	http://www.epa.gov/oppt/ppic/

Appendix 1 – New York State BOCES Contact Table

BOCES/ DEC Regions	Contact Name	Phone #	Email	Location
Long Island Area- DEC Region 1				
Eastern Suffolk BOCES	Jonathan Hark	631-472-8785	jhark@esboces.org	Holbrook
Nassau County BOCES	Peter LaDuca	516-396-2388	pladuca@mail.nasboces.org	Garden City
Lower Hudson Valley-DEC Region 3				
Putnam-N. Westchester BOCES	Mike Sellet Carole Sneyd	914-248-2457 845-721-7284	msellet@pnwboces.org csneyd@pnwboces.org	Yorktown Heights
Rockland BOCES	John Gulino	845-627-4762	jgulino@rboces.lhric.org	West Nyack
Southern Westchester BOCES	Thomas DiBuono	914-937-3820 ext. 544		Elmsford
Mid-Hudson Valley-DEC Region 3				
Dutchess BOCES	David Witherwax	845-486-8087	David.witherwax@dcboces.org	Poughkeepsie
Orange-Ulster BOCES	Jack DeGraw Maureen Dougherty	845-781-4887	John.degraw@ouboces.org	Harriman
Sullivan County BOCES	Mike LaFountain	845-295-4028	mlafountain@scboces.org	Liberty
Ulster BOCES	Mike O'Rourke	845-255-1400 ext. 1361	morourke@ulsterboces.org	New Paltz
Catskill Area-DEC Regions 4 & 7				
Delaware-Chenango-Madison-Otsego BOCES	Tom Smith	607-335-1283	smitht@dcmoboces.com	Norwich
Otsego-N. Catskills BOCES	Josh Reiss	607-588-6291 ext. 101	jreiss@oncboces.org	Stamford

Capital District Area – DEC Region 4				
Capital Region BOCES	Jennifer Bennett	518-464-5115	Jennifer.bennett@neric.org	Albany
Questar BOCES	Craig Hansen	518-479-6974	chanson@questar.org	Castleton
Adirondack Area- DEC Regions 5 & 6				
Champlain Valley BOCES	Jeff Sisson	561-0100 ext. 358	jssison@cves.org	Plattsburgh
Franklin-Essex-Hamilton BOCES	Suzanne Shook	518-483-5230	sshook@mail.fehb.org	Malone
Jefferson-Lewis BOCES	John Warneck	315-779-7055	jwarneck@mail.boces.com	Watertown
Washington-Saratoga-Warren-Hamilton-Essex BOCES	Tim Place	518-581-3322	tplace@wsweboces.org	Saratoga Springs
Mohawk Valley Area- DEC Regions 4, 5, 6 & 7				
Hamilton-Fulton-Montgomery BOCES	David Aimone	518-736-4380	daimone@hfmbooces.org	Johnstown
Oneida-Herkimer-Madison BOCES	Jane Goodwin	315-793-8555	jgoodwin@oneida-boces.org	New Hartford
Central NY Area – DEC Regions 7 & 8				
Cayuga-Onondaga BOCES	Mark Snyder	315-255-7683	msnyder@caybooces.org	Auburn
Genesee Valley, Monroe 1 & 2, Wayne, Finger Lakes, Wyoming BOCES	Don Case	585-346-4108	Dcase2@gvbooces.org	Lakeville
Onondaga-Cortland-Madison BOCES	Dave Daignault Don Warnow	315-431-8591 315-952-6372	ddaignault@ocmbooces.org dwarnow@ocmbooces.org	Syracuse
Oswego BOCES	Tom Abbot Patty Cerio	315-963-4271 315-963-4476	tabbott@oswegoboces.org pcerio@oswegoboces.org	Mexico
Tompkins-Seneca-Tioga BOCES	Jim Drew	607-257-1551 ext. 443	jdrew@tstbooces.org	Ithaca

Southern Tier Area- DEC Regions 7, 8 & 9				
Broome-Tioga BOCES	Callie Kavleski	607-427-2998	ckavlesk@btboces.org	Binghamton
	Michelle Casale	607-739-1404	mcasale@btboces.org	
Cattaraugus- Allegan y	Dean McKnight	716-376-8205	Dean_mcknight@caboces.org	Olean
Erie#2 BOCES – Chautauqua- Cattaraugus	Andy Ippolito	716-672-4371 ext 2011	Aippolito@e2ccb.org	Fredonia
Greater Southern Tier BOCES	Jim Saxe	607-739-3581 ext. 1404	jsaxe@gstboces.org	Elmira
	Tony Stager-Chemung County	607-795-2592	astager@gstboces.org	
	Tim Nolan-Steuben County	607-654-2738	tnolan@gstboces.org	
	Laura Dewey- Steuben/Schuylers/Yates Counties	607-739-3581 ext. 1403	ldewey@gstboces.org	
Western NY Area-DEC Region 9				
Erie #1 BOCES- Orleans- Niagara	Dennis Kwaczala	716-821-7440	dkwaczala@elb.org	West Seneca / Buffalo

Appendix 2

Toxicity Characteristic Leaching Procedure (TCLP)

A solid waste exhibits the characteristic of toxicity if, using the Toxicity Characteristic Leaching Procedure, Test Method 1311 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in subdivision 370.1(e) of Part 370, the extract from a representative sample of the waste contains any of the contaminants listed in Table 1 at a concentration equal to or greater than the respective value given in that Table. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering using the methodology outlined in Method 1311, is considered to be the extract for the purpose of this subdivision.

Maximum Concentration of Contaminants for the Toxicity Characteristic

EPA HW No. ¹	Contaminant	CAS No. ²	Regulatory Level (mg/L)
D004	Arsenic	7440-38-2	5.0
D005	Barium	7440-39-3	100.0
D018	Benzene	71-43-2	0.5
D006	Cadmium	7440-43-9	1.0
D019	Carbon tetrachloride	56-23-5	0.5
D020	Chlordane	57-74-9	0.03
D021	Chlorobenzene	108-90-7	100.0
D022	Chloroform	67-66-3	6.0
D007	Chromium	7440-47-3	5.0
D023	o-Cresol	95-48-7	⁴ 200.0
D024	m-Cresol	108-39-4	⁴ 200.0
D025	p-Cresol	106-44-5	⁴ 200.0
D026	Cresol		⁴ 200.0

D016	2,4-D	94-75-7	10.0
D027	1,4-Dichlorobenzene	106-46-7	7.5
D028	1,2-Dichloroethane	107-06-2	0.5
D029	1,1-Dichloroethylene	75-35-4	0.7
D030	2,4-Dinitrotoluene	121-14-2	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	Pentachlorophenol	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

FOOTNOTE 1: Hazardous waste number.

FOOTNOTE 2: Chemical abstracts service

number.

FOOTNOTE 3: Quantization limit is greater than the calculated regulatory level.

The quantitation limit therefore becomes the regulatory level.

FOOTNOTE 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.