



This document is one section from EPA's "Chemical Management Resource Guide for School Administrators," published in December 2006. The reference number is EPA-747-R-06-002. You can find the entire document at <http://www.epa.gov/opptintr/chemmgmt/index.htm>.

## Chemical Management Resource Guide for School Administrators

### Section III Policies and Actions

## III. Policies and Actions

The following sections provide guidance on recommended chemical management policies. These policies relate to: pollution prevention and green chemistry (concepts that minimize the potential for hazardous chemical use in the first place); the general management of chemicals and products already present in schools; chemical inventories; the purchasing and tracking of chemicals; the storage and handling of hazardous chemicals; personnel training and hazard communication; and chemical spills, cleanup, and disposal. To properly implement these suggested policies, schools should establish a leadership team and confirm the availability of budget and resources.

### III.A. Leadership and Resources

To institute good chemical management policies, school administrators need to set the tone that chemical management is important by assigning roles and responsibilities for implementing proper safety and chemical hygiene practices. Guidelines are provided below that policymakers at the district level and school administrators should implement in order to initiate responsible chemical management practices in their schools.

#### Training and Teamwork Approach to Safety and Chemical Hygiene

"Northshore School District, in Washington State, has adopted the training and teamwork approach to Safety and Chemical Hygiene in the past 2 years. As a result, last year our insurance pool lowered our annual insurance premium by \$30,000 for our efforts. In enacting these programs our Director of Curriculum, Director of Risk Management, and the Chemical Hygiene Officers saved money for the district."

*John Schmied,  
Northshore School District  
Chemical Hygiene Officer*

- **Establish or confirm that your district has committed budget and staff resources for chemical management.** When schools consider their costs for chemicals, they generally consider only the purchase price. Each stage of chemical and product management, however, has associated costs of labor (e.g., training chemical hygiene officer and other staff), materials, equipment, and disposal, as well as costs of storage space and potential liability when responsible chemical management is not practiced.
- **Design and communicate a chemical management policy.** School district administrators and principals need to establish an overall policy stating a strong commitment to responsible chemical management, including implementation of the policies and actions defined in this document. The policy should be communicated to all by the highest level of management. Strong support from the administration, combined with adequate resources, will enable responsible chemical management. Active involvement by the full school community is an important element of success, as well.
- **Appoint a chemical hygiene officer.** The chemical hygiene officer is someone who is qualified by training and experience to provide technical guidance and leadership in the development and implementation of the provisions of the chemical hygiene plan. The position description or job classification of a chemical hygiene officer will vary across school districts; however, in all cases, they should be trained to provide chemical management leadership to the school.
- **Designate a team to oversee the chemical management program at your school.** This team should consist of teachers, janitorial staff, and maintenance personnel to comply with the chemical hygiene plan and help oversee the chemical

management program at your school described in the sections that follow. Team members should be trained by the chemical hygiene officer (and reinforced at least annually). At a minimum, team members should understand physical/chemical properties and potential health effects of chemicals, chemical compatibility, applicable environmental regulations and compliance issues, and waste management procedures of the school. You may also consider involving students (as applicable) as part of the process.

- **Disseminate information.** Share experiences and lessons learned with other school districts and administrators. Maintain a proactive program of informing parents, guardians, teachers, and other staff about chemical and product management activities ongoing at your school.

### III.B. Pollution Prevention and Greener Alternatives

A key aspect of responsible chemical management is identifying opportunities to minimize chemical use through the implementation of pollution prevention and green chemistry principles.

Pollution prevention (sometimes referred to as “P2”) is defined as preventing or reducing pollution at the source, whenever feasible, and other practices that replace or eliminate the creation of pollutants. An example of pollution prevention would be using smaller quantities of (or environmentally benign substitutes for) chemical products used for grounds maintenance or cleaning.

A related concept, green chemistry, focuses on science laboratories by reducing the levels of toxicity and amount of chemicals used in experiments, promoting safety, pollution prevention, and waste minimization. Similar concepts, microscale chemistry and small-scale chemistry, involve scaling down the quantities of chemicals required for science experiments resulting in improved laboratory safety. Exploring and adopting pollution prevention and green chemistry concepts in a school system results in many direct environmental benefits and often results in cost savings for schools.

The following guidelines can be used to reduce or eliminate the generation of chemical pollutants and wastes.

- Establish a policy that makes pollution prevention the preferred form of waste management and strives to eliminate the purchase and use of most, if not all, hazardous chemicals. If elimination of the particular chemicals is not possible, other options include, in order of preference, reuse or recycling of chemicals and products; treatment of chemicals to reduce toxicity; and disposal of chemicals in an environmentally safe manner.



#### Check It Out

While treatment may be a useful activity, it should be cautioned that the treatment of hazardous waste may require a permit or be subject to regulation. You should consider discussing any treatment options with state or local regulatory agencies before you implement them in your laboratory. Neutralization of acids and bases, permitted under federal law, is probably the most commonly used treatment method in educational institutions; however, states may have more stringent standards regulating the disposal of acids and bases. To learn more about treatment methods, see Battelle Seattle Research Center’s “In-Laboratory Treatment of Wastes,” available on the P2 Pays website at <http://www.p2pays.org/ref/01/text/00779/ch13.htm>.

- Contact your state pollution prevention department for assistance in conducting a pollution prevention opportunity assessment, or contact your EPA Regional Office at <http://www.epa.gov/p2/pubs/local.htm> to find programs available in your area as well as the issues affecting your part of the country. Each EPA Regional Office supports pollution prevention activities that reduce or eliminate the sources of waste and pollutants through work with voluntary programs, partnerships with business and industry, state and local governments, citizens groups and other federal agencies.
- Establish a pollution prevention program to help your school minimize the amount of chemical waste generated throughout your school. The program may consist of developing school-wide and departmental annual waste reduction goals. The program may also include pollution prevention education sessions for teachers, maintenance staff, and students emphasizing the importance of substituting hazardous chemicals with chemicals that are less hazardous and scaling down the volume of chemicals used in classroom experiments and maintenance applications.
- Minimize the use of pesticides, a term that refers not only to insecticides but also to herbicides, fungicides, and various other substances used to control pests. Children may be especially sensitive to the health risks posed by pesticides because their bodies are growing and developing; they may also have greater exposure to pesticides because of their increased hand-to-mouth behaviors. A form of pollution prevention, integrated pest management (IPM), is an effective and environmentally sensitive approach to pest control that relies on common sense strategies to disrupt the life cycles of pests.

**The following resources provide technical background information to help schools implement their own pollution prevention/waste minimization programs:**

- Ohio EPA, Laboratory Pollution Prevention fact sheet, [http://www.epa.state.oh.us/opp/Fact16\\_web.pdf](http://www.epa.state.oh.us/opp/Fact16_web.pdf) and P2 checklist of lab opportunities, <http://www.epa.state.oh.us/ocapp/p2/labp2checklist.pdf>
- Battelle Seattle Research Center, Laboratory Waste Minimization and Pollution Prevention: A Guide for Teachers, <http://www.p2pays.org/ref/01/00779.htm>, and Chapter 8, Scaling Down Experiments, <http://www.p2pays.org/ref/01/text/00779/ch08.htm>
- EPA, Pollution Prevention: Definitions, <http://www.epa.gov/opptintr/p2home/p2policy/definitions.htm>
- EPA, 12 Principles of Green Chemistry, <http://www.epa.gov/greenchemistry/principles.html> and Teachers, <http://www.epa.gov/epaoswer/osw/conserved/clusters/schools/teachers.htm>
- EPA, state P2 Programs, <http://www.epa.gov/opptintr/p2home/resources/statep2.htm>
- EPA, Integrated Pest Management (IPM) in Schools, <http://www.epa.gov/pesticides/ipm/>
- EPA's Schools Chemical Cleanout Campaign (SC3), <http://www.epa.gov/sc3/>
- Great Lakes Regional Pollution Prevention Roundtable, Topic Hub™ for Pollution Prevention for Arts Education, <http://www.glrppr.org/hubs/toc.cfm?hub=509&subsec=7&nav=7>
- Green Cleaning Pollution Prevention Calculator, <http://www.ofee.gov/janitor/index.asp>
- Colorado State University, National Small-Scale Chemistry Center, <http://www.smallscalechemistry.colostate.edu>
- Merrimack College, National Microscale Chemistry Center, <http://www.microscale.org/>

### III.C. Chemical and Product Management

Responsible chemical management is critical to controlling a variety of environmental, health, and safety issues within any school. Knowing what materials are present in your school and how they are used, stored, and discarded will enable you to understand the issues associated with these substances. Properly recognizing and controlling the hazards inherent to these materials, wherever they are found in your schools, will enhance your ability to create a safe school with minimal environmental liabilities/lawsuits.

#### EPA's Schools Chemical Cleanout Campaign

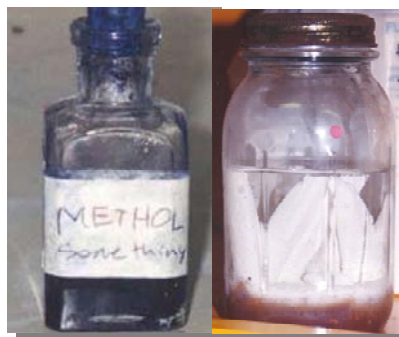
Resources such as EPA's SC3 program (see <http://www.epa.gov/sc3/>) are designed to facilitate chemical and product management. The purpose of SC3 is to reduce chemical exposures and improve chemical management in K-12 schools. By achieving these environmental goals, the SC3 will contribute to the broader goals of fewer lost school days and healthier students, faculty, and staff.

In addition to EPA's SC3, states have developed their own SC3 programs:

- Florida Department of Environmental Protection, School Chemical Cleanout Campaign (SC3), <http://www.dep.state.fl.us/waste/categories/hazardous/pages/schoolchemicals.htm>; and
- Tennessee Department of Environment and Conservation, School Lab Chemical Cleanout Campaign (SC3), <http://www.state.tn.us/environment/sc3/>.

Guidelines are provided below that schools and administrators should implement to initiate responsible chemical management practices in their school.

- Establish an environmentally preferable chemical management policy considering the entire chemical and product lifecycle, which begins with chemical purchasing and includes identification, labeling, storage, inventory maintenance, and the activities associated with the use and disposal of chemicals and wastes generated from their use, including training, spill control procedures, and record-keeping requirements.



Chemicals that are not correctly and clearly labeled, as shown in the photos above, should be disposed of properly. Products used in schools should have an MSDS, be stored in their original containers, and be correctly and clearly labeled.

*Photo Credit: Rehab the Lab Program,  
Local Hazardous Waste Management  
King County, Washington*

- Establish a district-level chemical purchasing policy, chemical products evaluation process, and a district-approved chemicals and products list (see Section III.E). For example, the Los Angeles Unified School District's Chemical Hygiene Program (<http://www.lausd-oehs.org/chemical-hygiene.asp>) allows only approved chemicals to be used in school laboratories. Controlling what chemicals are used within your schools is essential to ensuring that only products that have been reviewed and approved for use are brought into the school environment.
- Create a written chemical hygiene plan that describes procedures and practices for the protection of students and school employees from the health hazards presented by hazardous chemicals and products that are found in school laboratories. The chemical hygiene plan is a critical element of chemical management and should contain specific requirements and guidelines for chemical handling, inventory, storage, spills, and disposal. The plan should be updated annually and whenever necessary. The Appendix contains excerpts and references to several examples of chemical hygiene plans

currently in use by school districts nationwide.

- Contact state or local health departments or environmental agencies for more information. Many chemical management practices are often regulated at the federal, state, and/or local level.

### III.D. Chemical Inventory

Existing accumulations of outdated, unknown, poorly labeled, improperly stored, degraded, and excessive quantities of hazardous chemicals are present in many schools. These chemicals pose safety and health risks to students and school personnel. Properly identifying and removing these chemicals is a key step in preventing accidents. An important part of responsible chemical management is the creation of an accurate chemical inventory. A chemical inventory identifies the quantities and physical locations of, as well as the potential hazards associated with, all of the chemicals

used and stored in a school. It also serves as a reference for school and emergency personnel (e.g., local fire department) in the event of an emergency. Furthermore, a chemical inventory, when used to guide necessary purchases, can reduce the costs and management needs associated with excess chemicals.

Guidelines are provided below that schools and administrators should follow in order to conduct an inventory at their school. Some guidelines refer to other documents (e.g., chemical hygiene plans); information about these documents is discussed in later sections.

- Conduct an inventory of all of the chemicals and products containing chemicals (e.g., mercury thermometers) stored on-site, covering all sections of the school including maintenance rooms and closets, storage sheds, greenhouses, and all

#### Chemical Inventory Safety Tips

The process of assessing existing chemical hazards can be dangerous. The following guidelines are recommended:

- Contact a trained professional to conduct a walk-through inspection of the school to pre-screen for potential hazards. Certain types of chemicals pose an imminent hazard (e.g., shock-sensitive materials) and must be handled only by qualified emergency personnel or hazardous waste professionals.
- If the pre-screening establishes that it is safe to conduct an inventory, ensure that the inventory team is properly equipped with personal protective equipment and emergency response supplies as well as chemical management and safety knowledge.
- Ensure that chemical storage areas are properly ventilated and that potential sources of ignition are turned off.
- Conduct pre-screening, inventory and removal while students are NOT in school.
- When complete, provide your local fire department a copy of the chemical inventory.

Appendix 2 of the Massachusetts School Chemical Management Program (available at <http://www.mass.gov/dep/service/schlchem.pdf>) includes a step-by-step guide to conducting chemical inventories.



A chemical inventory identifies the amount and location of all of the chemicals stored on-site, covering all sections of the school including maintenance areas. A thorough inventory would identify inappropriate chemical storage practices, such as the one shown in this photo. Chemicals such as ammonia and bleach are commonly found in schools. Despite their useful purposes, these chemicals are incompatible and should not be stored near each other, especially in maintenance storage areas or in hot boiler rooms where the bottles may bulge or break. Mixing of these two chemicals would create a chlorine gas cloud.

*Photo Credit: Marina Brock, Barnstable County (Massachusetts) Department of Health and Environment*



classrooms. Engage all school staff who will either be involved in conducting the inventory, or will be having their chemicals inventoried. Pre-packaged science experiments or demonstration kits should be included in the chemical inventory.

- Establish a policy that chemical inventories be conducted and updated annually, unless state or local regulations require a more frequent schedule. Contact your local state agency, college or university, industry partner, or chemical supplier, or identify a responsible person within the school who has training in hazardous chemical management to assist with the inventory.
- Review other documents you may have in schools in your district, such as a *chemical hygiene plan* or *hazard communication plan*, to ensure that chemicals are consistently being managed, stored, handled, and disposed of properly. Review your *approved chemicals and products list* (see Section III.E). Chemicals and products not on this list should be removed and properly disposed of or recycled according to applicable federal, state, and local laws. Update the inventory when new chemicals or products are added to the list and when chemicals or products are used or disposed.
- Conduct periodic cleanouts by identifying and removing unnecessary hazardous materials and expired chemicals through appropriate recycling and/or disposal methods. Chemical inventories should be conducted prior to cleaning out chemicals from schools. Contact your local state agency, college or university, industry partner, or chemical supplier, or someone with technical qualifications to identify potentially dangerous situations (i.e., school staff should not move very old chemicals because of the extreme hazard they may present) and properly handle the chemicals during a chemical cleanout.



### Check It Out

The following resources provide information to help schools conduct their own chemical inventories, including a suggested chemical inventory list. You may also wish to check with your own state's environmental and educational agencies.

- Colorado Department of Public Health and Environment, Guidance on Chemical Management in Schools, <http://www.cdphe.state.co.us/cp/Institutions/Schools/ChemInSchools/ChemMgmt.html>
- Montana Department of Environmental Quality, Montana School Labs, <http://www.mdeqschoollabs.com/>

### III.E. Purchasing

Chemicals enter school systems through a variety of avenues such as regular purchases (including purchase orders, purchasing cards, and personal purchases) by teachers and facility maintenance personnel, as well as donations from local industries and chemical suppliers.

Chemicals have varying hazard levels; thus, the determination to purchase should factor in need, use, safety, environmental factors, and chemical/product management lifecycle costs. Remember, just because a chemical can be purchased at your local hardware or grocery store does not mean it is safe if improperly used or stored.

To create a chemically safer school environment, school administrators should implement measures to reduce the amount and hazardous nature of chemicals entering their schools. Perform small-scale or microscale chemistry experiments or seek environmentally preferred products or services “that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose.”<sup>6</sup>

Here are some suggestions of best management practices to create a chemically safer school environment:

- Establish a purchasing policy that addresses how chemicals and products containing chemicals are entering a school, who is using them, why they are being used, and how they will need to be disposed. Involve all teachers, maintenance and custodial personnel, and other staff to ensure that the chemical purchasing policy meets educational and facility maintenance needs while reducing the quantities and toxicity of chemicals. The Appendix provides resources to chemical purchasing examples in schools.
- Investigate pollution prevention and green chemistry options (see [Section III.B](#)) to determine whether certain chemicals can be reduced in quantity or eliminated entirely from science and art classes.

#### Environmentally Preferable Purchasing

EPA's Environmentally Preferable Purchasing (EPP) program was developed to assist federal agencies in making environmentally conscious purchasing decisions; however, businesses and state and local agencies have also found the program to be of value. The EPP website (<http://www.epa.gov/oppt/epp/pubs/about/faq.htm>) discusses frequently asked questions concerning EPP and includes a number of tools and links to guidance documents and case studies that schools can use to identify products that are less hazardous.

- Establish an environmentally preferable chemical screening process to ensure that all chemicals and products containing chemicals have been screened for environmental, health, and safety hazards prior to purchase, thus reducing and/or eliminating hazardous chemicals. For example, the Maryland State Department of Education provides guidance on responsible chemical purchasing.<sup>7</sup> The MSDS may be useful in this process.

- Create an approved chemicals and products list, based on less toxic or non-toxic alternatives to make non-toxic implementation and enforcement easier in your school. Only allow procurement of approved chemicals.
- Purchase chemicals and products containing chemicals in quantities that will be used during the current school year or that can be fully consumed under normal conditions within the shelf life of the product. Another concept is “just in time” purchasing in which chemicals are purchased as needed throughout the school year. These purchasing methods reduce the costs and management needs associated with excess and expired chemicals.
- Use products purchased or approved by the school. Teachers and other staff should be strongly discouraged from bringing in products on their own. Products used in schools should have an MSDS, be stored in their original containers in a secure location, and be correctly and clearly labeled.



Schools should exercise **EXTREME CAUTION** when accepting chemical donations, product samples, or promotional products (e.g., do not accept chemicals more useful for electroplating than for the teaching of high school chemistry). Schools should not give away chemicals to avoid the costs of disposal.



### III.F. Storage and Handling

School administrators should be aware of proper use and storage policies and procedures to ensure student and employee safety. Guidelines are provided below that schools and administrators can follow in order to reduce the risk of chemical accidents and ensure that chemicals and products in their schools are stored and handled safely.

- Establish a chemical storage and handling policy that addresses how chemicals should be properly stored, labeled, and secured, as well as who should have access to these chemicals and chemical storage locations. Chemicals should not be stored in areas that are occupied by or accessible to students, such as classrooms or restrooms; they should preferably be stored in a central, secure location. The Appendix provides resources to guidelines on the proper labeling of chemicals, recommended storage methods, and other considerations for proper storage (e.g., examples of incompatible chemicals and chemical segregation).
- Conduct at least annual inspections of classrooms, janitorial closets, and chemical storage rooms and cabinets in your school to ensure the integrity of chemicals and



To avoid a situation like the example shown above, schools should establish a chemical storage and handling policy that addresses how chemicals should be properly stored, labeled, and secured, as well as who should have access to them.

*Photo Credit: Rehab the Lab Program, Local Hazardous Waste Management, King County, Washington*

storage structures. Spot inspections may be performed periodically throughout the school year. Engage maintenance staff in these inspections if storage shelving or locks are in need of updates or repair. Create and maintain an up-to-date map of the location and storage pattern of chemical storage rooms and cabinets in your school.

- Inspect and test emergency equipment (e.g., eyewash stations and safety showers) as well as fume hoods and ventilation systems/exhaust fans at least on an annual basis. Engage maintenance staff in these inspections if safety equipment is in need of updates or repair. Establish protocols for the upkeep of emergency equipment and the associated maintenance records.
- Work with a local chemical supplier to ensure you have MSDS information for all chemicals on site. Hazardous chemicals in schools should be stored in accordance with MSDS specifications. Maintaining a hard copy or secure website access to MSDS information at the district level could be a cost-effective approach to ensuring that chemical safety information is available across all schools. At a minimum, MSDS information should be located in all chemical storage rooms and cabinets and in a central place within the school (away from the chemicals), as well as a central location for the school district.

A few school districts have developed their own chemical hygiene plans that provide step-by-step procedures, as well as checklists for the safe handling and storage of chemicals.

- Northshore School District Chemical Hygiene Plan, [http://schoolcenter.nsd.org/education/components/scrapbook/default.php?cms\\_mode=view&sectiondetailid=58540&sc\\_id=1161987494](http://schoolcenter.nsd.org/education/components/scrapbook/default.php?cms_mode=view&sectiondetailid=58540&sc_id=1161987494)
- Lake Havasu Unified School District, Arizona District Chemical Hygiene Plan, <http://www.havasu.k12.az.us/support/warehouse/chempolicy.html>
- LAUSD, School Laboratory Chemical Hygiene and Safety Plan (Appendix F), <http://www.lausd-oehs.org/docs/CSC/Chemical%20Hygiene%20Plan.pdf>

### III.G. Training

Proper training of staff and students on the handling of chemicals and products containing chemicals will help prevent accidents, thus reducing exposure to harmful chemicals. Training at various levels should be provided for all school employees and students on basic chemical hygiene, storage and handling procedures, and how to respond in the event of a chemical spill or accident. Guidelines are provided below that schools and administrators should follow on training.

- Establish a hazardous chemicals management and safety training program that addresses how school employees (and students, as applicable) are to be properly trained to handle certain chemicals and products and how to respond to a chemical spill or release, to understand the hazards of these materials, and to understand the types of liability associated with accidents

involving chemical usage in schools. Targeted employees should include school management, custodial and maintenance personnel, and appropriate teaching staff. The training program should include a review of the chemical hygiene plan, hazard communication plan, and approved products listing. Training sessions should be documented in a log for each employee and repeated periodically (e.g., on an annual basis) to serve as a refresher for existing personnel. Training also should be conducted for new hires.

- Contact a local health department, environmental management agency, hazardous waste agency, or chemical supplier to provide a training session with school employees that raises their awareness of using less toxic alternatives to certain chemicals, chemical substitutions, green purchasing, and performing small-scale experiments.



#### Check It Out

The following resources provide useful additional information on training:

- LAUSD, School Laboratory Chemical Hygiene and Safety Plan (Section III), <http://www.lausd-oehs.org/docs/CSC/Chemical%20Hygiene%20Plan.pdf>
- OSHA, Training Curriculum Guidelines - (Non-mandatory) - 1910.120 App E, [http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=STANDARDS&p\\_id=9770](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9770)

### III.H. Hazard Communication

Hazard communication planning is an important element in chemical and product management. Dissemination of information on the quantity and hazards of hazardous chemicals and products creates awareness about the range of chemicals and products used and fosters proper use and disposal of these chemicals and products.

Guidelines are listed that schools and administrators should follow in order to create a safer school environment for students and school employees.

- Create a written hazard communication plan that communicates how chemicals should be properly managed, stored, handled, and disposed. The plan should consist of an updated chemicals and products list, chemical labeling requirements, MSDS information, a disposal log, and instructions on employee training programs regarding hazards of chemicals and protective measures. The Appendix offers examples of hazard communication programs that have been implemented for various school districts across the country.
- Work with your local chemical supplier to help identify specific concerns. Depending on your location, state and/or federal hazard communication requirements specify your responsibility to identify and address the hazards associated with the chemicals and products used in your school facility.

#### Environmental Planning and Community Right-to-Know Act

The Environmental Planning and Community Right-to-Know Act (EPCRA) was passed in response to concerns regarding the environmental and safety hazards associated with toxic chemicals. EPCRA establishes emergency planning and chemical reporting ("Community Right-to-Know") requirements for Federal, state, and local governments; Indian Tribes; and industry. The reporting provisions help increase the public's knowledge and access to information on chemicals at individual facilities (such as schools), their uses, and accidental releases into the environment. The EPA sponsors various programs that pertain to chemical management.

**For more information see:** EPA, EPCRA Information, <http://yosemite.epa.gov/oswer/ceppoweb.nsf/content/EPCRA.htm?OpenDocument>

### III.I. Spills, Cleanup, and Disposal

Failing to take necessary safety precautions may put your school at increased risk of fire, explosions, and spills that may result in chemical exposure to students and school personnel, harm to the environment, and considerable clean-up costs to the school district. Hazardous wastes must be disposed of in accordance with RCRA and other applicable state and local requirements. Such requirements generally prohibit any drain disposal of hazardous chemicals or "treatment" of hazardous wastes beyond pH adjustment, and may be far more stringent than the disposal suggestions provided by chemical suppliers.



#### Check It Out

Refer to these resources as recommended guidance for creating your hazard communication plan:

- OSHA Hazard Communication Standard, Title 29 Code of Federal Regulations 1910.1200, [http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=STANDARDS&p\\_id=10099](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10099)
- **Reminder:** Federal OSHA does not have jurisdiction over state and local government employees, including those in public schools.
- Section III, Summary and Explanation of the Issues and the Provisions of the Final Rule, <http://www.osha.gov/pls/oshaweb/owadisp>.
- LAUSD OEHS Hazard Communication training presentation, <http://www.lausd-oehs.org/docs/CSC/HazComPresentation.ppt>

Proper chemical disposal can reduce the costs and management burdens associated with excess chemicals, including disposal costs of expired chemicals and the time required for inventory and storage of excess and unwanted chemicals, as well as costs of penalties due to enforcement actions that may result from improper chemical management.

Guidelines are provided below that schools and administrators can follow in order to reduce the risk of chemical accidents, improve spill response procedures, and ensure that chemicals and products in their schools are safely discarded.

- Create a written emergency response and spill clean-up and response plan for all chemicals and products. This plan should describe what to do and who to contact in the event of a spill or release, as well as the location of spill management supplies and equipment (e.g., spill kits, spill control materials, fire extinguishers) within the school. The clean-up and response plan should include a process for communicating with students, parents, teachers, and other staff about the incident, as well as methods for preventing accidents and exposures.

#### Chemical Safety Day Program in Minnesota

The Chemical Safety Day Program (CSDP) is a cost-effective waste management program available to educational institutions and non-profit organizations throughout the state of Minnesota. The CSDP has helped hundreds of high schools, colleges, and nonprofit organizations in disposing of hazardous material/waste at a reasonable cost and in an environmentally responsible way. More information about the program can be found on the CSDP website at <http://www.dehs.umn.edu/csdp/>.



As shown in the photo above, existing stocks of outdated, unknown, degraded, and excessive quantities of hazardous chemicals are present in many schools posing safety and health risks to students and school personnel. Identifying and removing these chemicals is a key step in preventing accidents. Establish a chemical disposal policy that addresses how unused and outdated chemicals and products containing chemicals should be properly removed from schools.

*Photo Credit: Rehab the Lab Program, Local Hazardous Waste Management, King County, Washington*

- Develop a budget for chemical management and disposal. Initial costs may involve hiring a chemical expert and disposing of accumulated chemicals and products. A longer-term waste disposal budget should account for the staff time necessary to develop and maintain disposal procedures, the purchase of special equipment and supplies, the upkeep of safety equipment (e.g., fume hoods), and annual hazardous chemical disposal and staff training.
- Establish a chemical disposal policy that addresses how unused and outdated chemicals and products containing chemicals should be properly removed from schools, including materials generated from the cleanup of spills.



## Check It Out

The following resources may provide useful additional information in order to reduce the risk of chemical accidents, improve spill response procedures, and ensure chemicals and products in their schools are safely discarded:

- EPA, Hazardous Waste & Your School, [www.epa.gov/ne/assistance/schools/pdfs/mefact.pdf](http://www.epa.gov/ne/assistance/schools/pdfs/mefact.pdf)
- King County, Washington, Laboratory Waste Management Guide, Final Report, <http://www.govlink.org/hazwaste/publications/LabGuidelinesRevAugust06.pdf>
- Nebraska Department of Environmental Quality, Guidance Documents: School Chemicals and Disposal, <http://www.deq.state.ne.us/Publications/0/d9583aaae76ad49c8625690b007378a3?OpenDocument>
- Massachusetts Department of Environmental Protection, Massachusetts School Chemical Management Program, Working Draft, <http://www.mass.gov/dep/service/schlchem.pdf>
- Council of State Science Supervisors, Science and Safety: Making the Connection, <http://www.csss-science.org/downloads/scisafe.pdf>

The U.S. National Library of Medicine's on-line Wireless Information System for Emergency Responders (WISER) provides assistance in identifying hazardous substances, as well as spill containment advice. See <http://webwiser.nlm.nih.gov> for more information.

### Disposal Guidelines for School Facilities

Schools must comply with regulations regarding the management, transport, and disposal of hazardous waste. Schools are required to track the amount of hazardous waste they generate and ensure that all wastes are properly disposed of according to federal, state, and local requirements. These requirements can affect the way chemicals and chemical wastes are managed in schools. Subtitle C of RCRA regulates hazardous waste generators. According to RCRA (40 CFR Part 261), there are three categories of hazardous waste generators (large, small, and conditionally exempt), based upon the quantity of waste they produce per month. Most schools fall into the Conditionally Exempt Small Quantity Generator (CESQG) category. A CESQG generates 100 kilograms (220 pounds) or less per month of hazardous waste, or 1 kilogram (2.2 pounds) or less per month of acutely hazardous waste. EPA provides definitions of each generator category and its specific requirements at [http://www.epa.gov/epaoswer/osw/gen\\_trans/generate.htm](http://www.epa.gov/epaoswer/osw/gen_trans/generate.htm); however, states may have additional requirements for generators. Refer to these waste management and disposal resources as recommended guidance for your school:

- EPA, Hazardous Waste Management for School Laboratories and Classrooms, <http://www.epa.gov/region8/humanhealth/children/2HWMManagementToolkit.pdf>
- Idaho Department of Environmental Quality, Idaho Chemical Roundup Waste Management and Disposal at Schools, [http://www.deq.state.id.us/waste/educ\\_tools/chemical\\_roundup\\_waste\\_disposal\\_fs.pdf](http://www.deq.state.id.us/waste/educ_tools/chemical_roundup_waste_disposal_fs.pdf)
- Nebraska Department of Environmental Quality, School Chemicals and Disposal, <http://www.deq.state.ne.us/Publications/0/d9583aaae76ad49c8625690b007378a3?OpenDocument>
- Florida Department of Environmental Protection, Disposal Guidelines for School Facilities, [http://www.dep.state.fl.us/waste/quick\\_topics/publications/shw/hazardous/SC/DisposalMemoFinal.pdf](http://www.dep.state.fl.us/waste/quick_topics/publications/shw/hazardous/SC/DisposalMemoFinal.pdf)