



*A Message from the Department of Environmental Quality's
Drinking Water Protection Team*



Best Management Practices for Businesses Using Small Quantities of Chemicals

(Adapted from U.S. Environmental Protection Agency document EPA 816-F-01-025, July 2001)



Many small businesses use chemicals to carry out their business functions. Although varying greatly in purpose, these small quantity chemical users share in their ability to potentially contribute to the pollution of drinking water. Many small businesses understand their day-to-day business operations but may lack familiarity with procedures for proper use and management of chemicals. Businesses that generate hazardous waste, as it is defined under the Resource Conservation and Recovery Act, should consult with LDEQ regarding proper handling and disposal. LDEQ regulations (LAC Title 33, Part V) can be found at www.deq.louisiana.gov/portal/Default.aspx?tabid=1674.

Businesses Using Small Quantities of Chemicals

Small quantity chemical users include dry cleaners, vehicle repair shops, printers, laboratories, photo finishers, metal platers, water treatment facilities, furniture refinishers, medical facilities, and many others. These businesses use chemicals and produce chemical waste in their daily practices. Degreasing, cleaning, polishing, paint preparation, rust removal, and photo processing are just a fraction of the activities in which small businesses are engaged. Improper disposal of chemicals from these users can reach ground or surface water through a number of pathways. If substances from these businesses are accidentally or intentionally discharged into sewers, contamination of ground and surface waters can occur. Improper disposal into sewers can also endanger the ability of sewer treatment plants to properly treat wastewater. Chemicals poured into septic systems can leach into ground water or contribute to treatment system failure. Chemical users should always ensure that haulers they hire to carry their waste off-site are properly licensed and that they deliver the waste to appropriate disposal sites.

Why is it Important to Manage Small Quantity Chemical Use Near the Sources of Your Drinking Water?

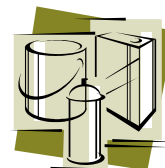
Many ordinary businesses use chemicals and produce chemical waste that can be harmful to humans if ingested. Types of chemicals used by these businesses include solvents, corrosives, dry cleaning agents, heavy metals and inorganics, inks and paint, lead-acid batteries, plating chemicals, cyanide, and wood preserving agents. Each set of contaminants has its own environmental and health hazards. For example, a dry cleaning filtration residue, perchloroethylene, causes kidney and liver damage in both humans and animals. It is among the most common contaminants in ground water and a very small amount can contaminate many thousands of gallons of water. Used cyanide, a common waste product of metal finishing, is considered an acutely hazardous waste and can be toxic in very small doses. Chemical manufacturers can supply Material Safety Data Sheets (MSDS) which list these kinds of dangers and help to categorize products and their waste.

Prevention Measures to Address Small Quantity Chemical Use

Due to the large number and variety of businesses that use chemicals, there are a vast number of prevention measures, many of which are specific to the facility of interest. This fact sheet discusses some prevention measures that are common to most facilities that use chemicals. Before a facility can implement any pollution prevention practice, it must first assess what kinds of chemicals are used and how they are used. Monitoring chemical use can help operators decide which option will be the most beneficial. Some of the easiest and least expensive practices listed here can produce the most effective pollution prevention results.

Avoid Excess Chemical Use

Good Waste Reduction and Management Strategies - Make sure employees carefully follow the manufacturer's directions when mixing or using chemicals to prevent producing large quantities of useless material that must be disposed of as waste. The toxicity of waste can be reduced by using the least hazardous or least concentrated products available to accomplish their processes.



Responsible purchasing can also drastically decrease the amount of waste for disposal. This includes ordering materials on an as-needed basis and returning unused portions back to vendors. A facility may unwittingly create excess harmful materials by mixing hazardous with non-hazardous waste. Avoiding this practice can significantly reduce the toxicity of waste disposed of and increase the possibility of recycling materials.

Proper Use and Handling of Chemicals

Reading the label on chemical containers is one of the simplest and most important prevention measures. The label provides information on proper use, storage, and disposal and may provide emergency information in the event the product is accidentally spilled or ingested. In cases where the chemical is highly dangerous, the label will contain special warnings or use restrictions.



Employee training is critical in preventing source water pollution by facilities using chemicals. While many preventive measures seem simple and straightforward, if they are not followed or employees are unaware of them, significant consequences can result. All staff should be trained to store materials properly and be aware of spill control and response protocols. Employees can be encouraged to learn and retain proper procedures through periodic drills, pollution prevention training workshops, and company incentive or reward programs.

Proper Storage and Disposal of Chemicals

Chemical audits are a good starting point. It is important to understand chemical needs for the facility and compare these to the chemical supply on hand. Where appropriate, excess chemicals should be removed (and properly disposed of), or future purchasing adjusted to reduce stored inventories. A chemical **management plan** that includes a list of chemicals used, the method of disposal such as reclamation or contract hauling, and procedures for assuring that toxic chemicals are not discharged into source water should be implemented.



Proper on-site storage of hazardous substances helps to prevent accidental leaks and applies to both storage areas and containers. Designated storage areas should have paved or impervious surfaces, a protective cover, and secondary containment around all containers to catch spills. Containers should have clear and visible labels which include purchase date and all information presented on the distributor's original label. Dating materials allows facilities to use older materials first. When not in use, storage containers must be sealed to prevent spills and evaporation. Storage areas and containers should be thoroughly inspected on a weekly basis and secured against unauthorized entry. Care should be taken that chemical storage and handling areas do not allow for contamination of storm water flows.

Spill Prevention and Control

When hazardous substances are unintentionally released, the event is considered a spill and must be treated accordingly. Spill prevention and control includes spill response plans which serve as guidance for employees in the event of a large spill. A good plan minimizes environmental impact and reduces liability for clean-up costs and possible bodily injuries. It should be kept where it can be easily viewed by employees near mixing and storage areas. Besides detailed instructions for staff, a spill response plan includes a diagram showing the location of all chemicals, floor drains, exits, fire extinguishers, and spill response supplies. Spill response supplies (e.g., mop, pail, sponges, absorbent materials) should also be listed. Someone trained in these procedures should be on site or easily reachable during hours of operation. Other practices to control spills include the use of funnels when transferring harmful substances and drip pans placed under spigots, valves, and pumps to catch accidental leakage. Sloped floors allow leaks to run into collection areas. All practices should be performed in a way that allows the reuse or recycling of the spilled substance.

