



# CHEMICAL SPILL PREVENTION

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# Chemical Spill Prevention

by Nancy Westcott

Inventory management of liquid materials is a critical component of a turf manager's day-to-day operation. Questions that arise include whether it is better to purchase smaller, more manageable quantities of the fluid at higher prices that can be poured directly out of a 1-gallon or 5-gallon container, or to purchase larger quantities and then have to deal with transferring the fluids out of the container safely. To top it off, OSHA and EPA have increased environmental health and safety (EHS) regulations, so decision making in this area is critical.

As we all know, if there is a spill, depending on the exact material and volume spilled, the paperwork for the EPA, if required, is time consuming, and the cost of lost fluid inventory and cleanup time is expensive.

The majority of spills occur while removing material from the drums. Many companies rely on workers to manually lift and tip the 55-gallon drums and pour the fluids into a smaller drum, or use a forklift for transferring the contents into another container. In either case, spills are inevitable, and spill kits are necessary.

This is obviously true if they are pouring from a 55-gallon drum into a smaller vessel. Overflow is difficult, almost impossible, to avoid. If the drum has a faucet, it must be manually lifted to assure it is completely drained. If the faucet has clogged, it must be removed and the remainder emptied.

All of these manual methods of drum emptying frequently end up with spills that can create a hazardous work environment.

Chemical spills can be prevented with the use of pumps and mechanical lifting equipment, but the pumps must

be able to handle a variety of aggressive fluids without corroding or contaminating those liquids. Electrically operated pumps present an unnecessary fire danger that must be considered.

## Case in point

Michael R. Cyr, owner of Advance Lawn, Ornamental Tree and Shrub Care LLC, holds a Connecticut state-certified supervisory license, which is required by law to own a commercial applicator's business to apply liquid materials in the lawn care business. His company has been in the lawn and shrub care business for over 20 years. With over 1,800 to 2,000 monthly applications on residential and business sites in lower Fairfield County, Conn., his crews use a lot of liquid materials. While growing his business to its current size, Cyr found that he had to make choices about the size of containers to purchase. Various trade-offs had to be considered. The 2.5-gallon containers are quite convenient for pouring, but if purchased all at once they were hard to store. In these small quantities, there is a great deal of effort that goes into managing the inventory to make sure not to run out. As a steward of the environment, Cyr didn't like throwing that much plastic in the landfill. He also found that buying 22 2.5-gallon containers of any fluid was nearly four to six times the cost of a single 55-gallon container. He began



Pressure-action drum pumps facilitate fluid transfer.

buying the larger 30 and 55-gallon drums. The methods for transferring the fluids—siphon, rotary pump, pull action pump, lever action pump—were all initially effective, but over time the pumps failed frequently, producing leaks and spills.

Wanting to improve worker safety, Cyr tried GoatThroat pumps. The pump worked well when inserted atop the upright drum. In addition to eliminating leaks and spills, the pump performed at volumes up to 4 gallons per minute. Providing improved volume control and increased accuracy, the pump eliminated waste and reduced costs. The pumps are powered either by hand or with a shop-air-compressor adapter, and equipped with a release valve to maintain pressure between 2 and 7 PSI.

"The pumps have turned out to be a safe and smart solution for us," says Cyr. "It works like a beer tap for liquid material. There is no pulsing, and at 4 gallons a minute, this is plenty of volume for our purposes."

When it comes to solving the problems of managing the environmental and workplace problems created by liquid handling, prevention beats cleanup by a wide margin.

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