

## USE OF CHLORINE TABLETS FOR WASTEWATER DISINFECTION

The use of chlorine tablets to disinfect wastewater is important for the protection of human health and the environment. For safe, effective and dependable disinfection, as well as proper operation and maintenance of wastewater facilities, only *calcium hypochlorite* tablets are to be used. **Tablets for swimming pool disinfection should *never* be used for wastewater disinfection.** Using the wrong tablets may lead to inadequate disinfection, may be hazardous to the aquatic life in the receiving stream, and may result in the generation of an explosive and lethal gas within the tablet feeder.

Calcium hypochlorite tablets are the only readily available product labeled for use in a tablet feeder for wastewater disinfection, and are specified in the Department of Environmental Protection's [Small Flow Treatment Facilities Manual](#) as the *only* tablets approved for this use.

Calcium hypochlorite tablets are used for wastewater disinfection because they are very reactive and quickly kill most pathogens (disease causing organisms) and other bacteria present in wastewater. Calcium hypochlorite will deteriorate and lose potency even in storage, which also and just as importantly means that any chlorine remaining in solution after disinfection will rapidly dissipate and be less likely to impact the receiving stream or harm aquatic life. Many sources for calcium hypochlorite tablets can be found online and they are also available through most wastewater chemical suppliers.

Since swimming pool tablets are also widely available from many suppliers, individuals unfamiliar with wastewater treatment may purchase these assuming that all chlorine tablets are the same. Swimming pool tablets contain a chlorine-acid compound, such as trichloroisocyanuric acid. These tablets work well for swimming pool disinfection because they are designed for total immersion and exposure to continually flowing water. They dissolve slowly and do not readily lose effectiveness in storage. When put into a flow-through wastewater tablet feeder, swimming pool tablets will not dissolve quickly enough to disinfect the effluent, and because the chlorine-acid compound is stable and slow to dissipate, the residual chlorine may damage the receiving stream and may even cause a fish kill. In addition, when swimming pool tablets are exposed to periodic flows, such as those in a single residence or small flow treatment facility, they begin to decompose and release an explosive gas called nitrogen trichloride. If a sufficient concentration of this gas builds within the wastewater system, it can explode violently when exposed to an open flame or organic contaminants such as those contained in sewage. Though rare, these explosions can be devastating, causing property damage and potentially serious injuries.

**All chlorine products are hazardous and must be handled with care.** Installers, home owners or plant operators must be thoroughly familiar with the product label directions and safety instructions. Handlers should always store tablets tightly closed in their original container. Repackaging these tablets in a smaller container or plastic bag is dangerous and in violation of law. Also, handlers should store chlorine tablets away from other chemicals, use personal protective equipment, and open containers in a well-ventilated area. If swimming pool tablets have been used by mistake, remove the tube with the tablets, properly dispose of the tablets, and rinse the tube before adding the calcium hypochlorite tablets to avoid explosive mixtures.

**Questions concerning wastewater treatment guidelines should be directed to Pennsylvania Department of Environmental Protection's Regional Offices:**

**Southeast Regional Office**

**2 East Main St.**

**Norristown, PA 19401-4745**

Main Telephone: 484-250-5900

24-Hour Emergency: 484-250-5900

**Counties:** Bucks, Chester, Delaware, Montgomery, and Philadelphia

**South-central Regional Office**

**909 Elmerton Ave.**

**Harrisburg, PA 17110-8200**

Main Telephone: 717-705-4700

24-Hour Emergency: 1-866-825-0208

**Counties:** Adams, Bedford, Berks, Blair, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Mifflin, Perry, and York

**Southwest Regional Office**

**400 Waterfront Drive**

**Pittsburgh, PA 15222-4745**

Main Telephone: 412-442-4000

24-Hour Emergency: 412-442-4000

**Counties:** Allegheny, Beaver, Cambria, Fayette, Greene, Somerset, Washington, and Westmoreland

**Northeast Regional Office**

**2 Public Square**

**Wilkes-Barre, PA 18701-1915**

Main Telephone: 570-826-2511

24-Hour Emergency: 570-826-2511

**Counties:** Carbon, Lackawanna, Lehigh, Luzerne, Monroe, Northampton, Pike, Schuylkill, Susquehanna, Wayne, and Wyoming

**North-central Regional Office**

**208 W. Third St., Suite 101**

**Williamsport, PA 17701-6448**

Main Telephone: 570-327-3636

24-Hour Emergency: 570-327-3636

**Counties:** Bradford, Cameron, Clearfield, Centre, Clinton, Columbia, Lycoming, Montour, Northumberland, Potter, Snyder, Sullivan, Tioga, and Union

**Northwest Regional Office**

**230 Chestnut St.**

**Meadville, PA 16335-3481**

Main Telephone: 814-332-6945

24-Hour Emergency: 1-800-373-3398

**Counties:** Armstrong, Butler, Clarion, Crawford, Elk, Erie, Forest, Indiana, Jefferson, Lawrence, McKean, Mercer, Venango, and Warren

For more information, visit [www.dep.pa.gov](http://www.dep.pa.gov), search term: Chlorine Tablets.