

## **MANAGEMENT OF SWIMMING POOL, HOT TUB, AND SPA WATER DISCHARGES**

This fact sheet addresses the discharge of water from swimming pools, hot tubs, and spas that are disinfected using chlorine, bromine, or “salt water disinfection,” and that also may contain residual amounts of other treatment chemicals including algaecides. Servicing of a pool, hot tub, or spa often involves discharging all or a portion of the water or backwash water from filters, both of which may contain residual chlorine at levels that could be damaging to the environment. As such, these waters may be considered “polluted” (i.e., “wastewater”), and must be managed to protect public health and to prevent pollution to waters of the commonwealth such as rivers, streams, lakes, and including storm sewers. The purpose of this fact sheet is to describe acceptable methods of managing discharges from swimming pools, hot tubs, and spas to avoid causing pollution. Pool, hot tub, and spa water should not be allowed to directly or indirectly discharge to waters of the commonwealth, including storm sewers.

### **What substances in pools, hot tubs, or spas could cause pollution?**

Chlorine and/or other disinfectants are typically added in sufficient amounts to kill potentially harmful bacteria. These disinfectants also react with other organic matter such as dirt, sweat, skin cells, leaves, and organisms creating potentially harmful disinfection byproducts. Other contaminants are added from the users, such as oil and grease from natural body oils and applied lotions and sunscreens. Chemicals commonly used in maintaining these systems, such as salt, borax, algaecides, phenols, caustic, and acid solutions, can be deadly to fish and other aquatic life. Backwashing of pool filters also contributes accumulated debris. All of these chemicals and materials have the potential to cause pollution and adversely affect public health and waters of the commonwealth.

### **What are acceptable methods for managing swimming pool, hot tub, and spa waters?**

The best approach for managing these wastewaters is disposal into a public sewer system or at a sewage treatment facility, with authorization of the sewer system owner. A permit is generally not necessary to reuse or recycle pool wastewaters, but approval from the owner of a sewer system or sewage treatment facility is typically required. Some municipalities have enacted additional requirements related to discharges from pools. Contact your municipality if you’re unsure whether additional guidelines exist.

### **What if no public sewer is available?**

The wastewater can be drained and allowed to infiltrate into a vegetated area or used for on-site irrigation after these guidelines are met:

1. Shut off the chlorination/chemical feed system if there is one, or stop adding chlorine and chemicals.
2. Shut off the heating system, if there is one.
3. Hold the water in the pool or hot tub to reduce the chlorine level to 0.5 mg/L or less (if applicable), and the temperature to an acceptable level (generally within 10° F of the air temperature).
4. Test frequently – the water may need to be held for 10 days or more depending on the surrounding conditions. Recirculating the water may help to speed up this process.
5. Adjust the pH, if necessary, to between 6.0 and 9.0 standard units.
6. Never drain the pool on a rainy day or if the soil is saturated.

When discharging on-site for infiltration or using the water for irrigation, ensure that:

- The water will not flow into a storm sewer or other water of the commonwealth.
- The water does not run off the property.
- Nuisances such as prolonged ponding, odors, and mosquito breeding conditions are prevented.
- The flow rate is slow enough to allow infiltration and does not cause erosion.
- Solids are captured by attaching a filter bag to the end of the discharge hose, if needed.

**May water from swimming pools, hot tubs, or spas be discharged to onlot septic systems?**

No, pool water should not be discharged into or on the surface of onlot systems because the system is not designed for the additional flow and the contaminants could impact the operation.

**May chemicals (e.g., strong acids or caustics) be used to clean my pool, hot tub, or spa?**

Yes, as long as the wastewater is captured or collected, properly treated and disposed of, and prevented from entering waters of the commonwealth, including storm sewers.

**How should wastewater from cleaning my pool be handled, properly treated and disposed of?**

Cleaning wastewaters that contain acid, caustics, or chlorine rinses used to clean pool surfaces should be treated prior to discharge. All wastewaters, but especially cleaning wastewater, must be neutralized to a pH between 6.0 and 9.0 standard units. Chlorine rinses can be dechlorinated or should stand for a period of 10 days to allow chlorine degradation to a residual of 0.5 mg/L or less prior to discharge.

Any pool wastewaters that have unnatural cloudiness, color, oil film, solids, foam, debris, vegetation, algae, or are not or cannot be properly treated, should be collected and hauled to a treatment facility in accordance with the facility’s guidelines.

**What should be done with standing water that has accumulated in a pool?**

Standing water, accumulated rainfall, or pool water from the previous season should be pumped from the top, but only if the chlorine residual and pH values are acceptable, to avoid disturbing solids on the pool bottom, which should not be discharged. After the water has been pumped, manually clean out the solids.

**Could someone who causes pollution by discharging water from swimming pools, hot tubs, or spas be penalized?**

If DEP determines that the management of swimming pool, hot tub, and spa wastewaters has caused pollution to waters of the commonwealth, the responsible party could be liable for civil penalties up to \$10,000 per day under the Clean Streams Law.

**For questions and additional information, contact the Clean Water Program in DEP’s regional offices:**

**Northwest Regional Office**  
230 Chestnut St.  
Meadville, PA 16335-3481  
Main Telephone: 814-332-6945  
24-Hour Emergency: 800-373-3398  
*Counties: Butler, Clarion, Crawford, Elk, Erie, Forest, Jefferson, Lawrence, McKean, Mercer, Venango, and Warren*

**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*

**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*

**Southwest Regional Office**  
400 Waterfront Drive  
Pittsburgh, PA 15222-4745  
Main Telephone: 412-442-4000  
24-Hour Emergency: 412-442-4000  
*Counties: Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, and Westmoreland*

**South-central Regional Office**  
909 Elmerton Ave.  
Harrisburg, PA 17110-8200  
Main Telephone: 717-705-4700  
24-Hour Emergency: 866-825-0208  
*Counties: Adams, Bedford, Berks, Blair, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Mifflin, Perry, and York*

**Southeast Regional Office**  
2 East Main St.  
Norristown, PA 19401-4915  
Main Telephone: 484-250-5900  
24-Hour Emergency: 484-250-5900  
*Counties: Bucks, Chester, Delaware, Montgomery, and Philadelphia*

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

## SWIMMING POOL WATER DISCHARGE GUIDELINES

Water from swimming pools and hot tubs often contains high levels of chlorine. Discharging chlorinated pool or spa water into streams, (irrigation canals or ponds, etc.) is harmful to fish and other aquatic life. The discharge of any sewage or industrial waste, including swimming pool water, to any waters of the commonwealth without a permit is a violation of the Clean Streams Law, the Act of June 22, 1937, P.L. 1987, as amended.

The Department of Environmental Protection (DEP) does not require a permit for discharges from single residence pools, provided the guidelines outlined below are followed. Local municipalities should be contacted concerning potential local ordinances.

These guidelines cannot be construed to waive or impair any rights of DEP to prosecute a property (pool) owner and/or pool company for any stream damage that occurs as a result of a discharge. Penalties would be assessed under the provisions of the Clean Streams Law.

### Pool Guidelines:

#### A. Disposal of Water to Sanitary Sewer

1. If the municipal authority grants permission, pool backwash water, pool cleaning wastewater and standing water may be discharged to the sanitary sewer system. Neutralize water before discharge by following these steps:
  - a) Prior to disposal of pool water to a sanitary sewer, shut off the chlorination system if there is one, or stop adding chlorine.
  - b) Hold the water in the pool or hot tub for at least two weeks to allow the chlorine to dissipate.
  - c) Measure the chlorine level in the pool or hot tub prior to discharging the water. The water should not show any detectable levels of chlorine. A longer holding period may be necessary if chlorine levels continue to remain at detectable levels at the end of two weeks. Chlorine measurements can be made with a chlorine test kit (colorimetric).
2. Plan discharge for low-use times of sewer flow such as afternoon or late night hours.
3. Use small volume pump and control discharge so it does not spill out. (**<100 gallons per minute per MAWC**)
4. Discharge with hose into access "cap" of the private property sewer cleanout. **DO NOT** use public manholes or cleanouts.
5. Care should be taken to make sure the discharge goes into a sanitary sewer and not a storm sewer, which would discharge to a stream. If sanitary sewers are not in the immediate area, the wastewater should be hauled off-site for disposal at an approved treatment facility.
6. Water from backwashing pool filters should not be discharged to a stream, ditch or storm sewer. Backwash from pool filters must be discharged to the sanitary sewer, on-site septic tank and drainfield system (if properly designed and adequately sized), or a seepage pit.

#### B. Discharge of Water

1. If the discharge to sanitary sewer is not feasible, then the following guidelines must be followed before discharging the water:
  - a) Prior to disposing or using the water for irrigation, shut off the chlorination system if there is one, or stop adding chlorine.
  - b) Hold the water in the pool or hot tub for two weeks to reduce the chlorine level.
  - c) Discharge or use the water for irrigation in an area where the water will not flow into a stream or storm sewer.
  - d) Discharge or use the water for irrigating the property and ensure that it does not flow off the property.

- e) Discharge or use the water for irrigation in a manner that will prevent nuisance conditions (such as creation of odors, and fly and mosquito breeding conditions). Nuisance conditions occur when water is held in the pool for a prolonged period.
2. The discharge should be at a rate which prevents erosion and optimizes filtration. In no event should pool water be directly discharged to waters of the commonwealth.
- C. Standing water or accumulated rain and/or pool water from the previous season should be pumped from the top so as not to disturb settled solids. Solids on the pool bottom should not be discharged. After the water has been pumped, solids should be cleaned out manually. The discharge should not raise stream temperatures by more than 2 degrees Fahrenheit in a one-hour period or a total of 5 degrees Fahrenheit. The pH should be between six and nine standard units and total chlorine residual should be 0.0 mg/l.
  - D. Cleaning wastewaters that contain muriatic acid or chlorine that is used in cleaning pool surfaces should be treated prior to discharge. Muriatic acid wastewater should be neutralized to a pH between six and nine standard units. Chlorine rinses should stand for a period of 10 days to allow chlorine degradation prior to discharge. Total chlorine residual of the wastewater discharge should be less than 0.5 mg/l. Temperature should be monitored as described above (standing water). Chlorine rinse water pH should be between six and nine standard units.

**Questions concerning pool guidelines should be directed to DEP's regional offices:**

**Southeast Regional Office**

**2 East Main St.**

**Norristown, PA 19401-4915**

Main Telephone: 484-250-5900

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