

Pool Chemical Safety: What Pool Managers and Backyard Pool Owners Need to Know

By Bob G. Vincent

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Pool chemicals are essential to keeping swimming healthy and safe, but there are “two sides to this coin” that need to be considered. When used properly, they help destroy waterborne pathogens in the pool, clarify the water, and make the water comfortable for bathers. But when they are mishandled, pool chemicals can cause injury. A new [report](#) from the U.S. Centers for Disease Control and Prevention (CDC) analyzes the latest data on pool chemical injuries. It appears injury statistics have remained rather static over the period 2008 to 2016, which makes me wonder what it will take to start these numbers trending downward.

Pool Chemical Injury Data

The data were collected by the U.S. Consumer Product Safety Commission’s [National Electronic Injury Surveillance System](#). Highlights from the report include:

- Between 2015 and 2017, pool chemical injuries led to approximately 13,508 emergency department visits. (That’s an average of approximately 4,500 visits per year.) There were no reported deaths from pool chemical injuries.
- Patients were most frequently injured when:
 - Inhaling treatment chemical fumes or dust that may get into the air when opening containers
 - Pool chemicals were not secured away from children
 - Pool chemicals were added to the water just before the swimmer entered the water
- Injuries most commonly reported were:
 - Respiratory
 - Ocular (eye irritation)¹
 - Dermal (skin irritation)



When opening pool chemical containers, wear safety gloves and eye protection and avoid inhaling product that may become airborne when containers are opened. For more tips on pool chemical safety, please access the free video [Pool Chemical Safety](#).

If you are accidentally exposed to pool chemicals...

*Seek help by calling Poison Control
1-800-222-1222*

*For immediate assistance, call 911
or go to the hospital*

¹ The CDC [report](#) notes one possible source of error in the report is that in some injury reports, the injury-causing chemical could have been incorrectly identified. The report states chloramine, a chemical product of chlorine and nitrogenous compounds from urine, feces, sweat, and dirt, might have been the cause of ocular irritation rather than chlorine itself.

- Approximately 36% of pool chemical injuries were experienced by individuals less than 18 years of age
- More than half of all injuries (at least 56%) occurred at a residence
- Two-thirds of the injuries occurred in the time period between Memorial Day weekend and Labor Day

Pool Chemical Injuries Are Preventable

Pool chemical injuries are preventable when those who handle pool chemicals take proper precautions. CDC notes the report findings “call for increased awareness about pool chemical safety among operators of public venues (including, for example, at a hotel or waterpark) and owners of residential venues.” I agree on both counts! The CDC’s [Model Aquatic Health Code](#), a comprehensive set of recommendations for pool design, construction, operation and maintenance is a valuable resource for municipal pool operators. It recommends pool operator training and certification. There are about a dozen great courses available for pool operators to learn more about pool chemical injuries and other important topics. As CDC notes in its pool chemical injury report, “The MAHC is based on the latest science and proven best practices and can be adopted voluntarily, in part or whole, by state and local jurisdictions.” CDC also maintains a robust [Pool Chemical Safety webpage](#) as part of its [Healthy Swimming website](#).

Because more than half of all injuries occur at residences, it is important that backyard pool owners understand safe pool chemical handling and storage. To try a very direct approach at spreading information, the Water Quality & Health Council will tweet safety messages to backyard pool owners throughout the summer swim season. Some of these messages include:

- *Before using or storing product, read manufacturer’s label directions and then follow them.*
- *Keep chemicals closed in original, labeled containers.*
- *Keep pool chemicals out of the reach of children, teens, and animals (including pets).*
- *Wear appropriate safety equipment, including goggles, gloves and mask, when handling pool chemicals; see product labels to identify appropriate protective equipment.*
- *Open one product container at a time and close it before opening another.*
- *Minimize dust, fumes and splashes.*
- *Never mix chlorine products with acid; this could create toxic gases.*
- *Keep food and drinks away from pool chemicals. No one wants to accidentally ingest pool chemicals. And carbonated beverages are acidic enough to react with chlorine products!*
- *Never mix different pool chemicals (for example, different types of chlorine products) with each other or with any other substance.*
- *Only pre-dissolve pool chemicals when directed by the product label.*

Pool Tweetment Tuesday on Twitter

Be sure to [follow @HealthyPools on Twitter](#) and help spread the word about pool chemical safety every #PoolTweetmentTuesday this summer!

Are you responsible for handling pool chemicals, or in a position to help promote their safe handling? A word—or a “re-tweet”—from the wise might just help start sending pool chemical injury statistics on a downward trend.

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