

Loss Prevention News

Provided by the Texas Municipal League Intergovernmental Risk Pool

Swimming Pool Chemical Storage Safety

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A TMLIRP member city had fire damage to a boiler that was housed in the same area as swimming pool chemicals. The harsh environment produced by the stored chemicals contributed to the flame box on the boiler deteriorating over time, which in turn exposed combustible materials to open flame and heat. This is just one example of the potential exposures that exist when using pool chemicals. Those who operate swimming pools should evaluate their facilities for hazards associated with chemical storage.

Some pool chemicals are classified as oxidizers, which can be highly reactive. Reactivity can be caused by chemicals becoming wet or damp, or by inadvertently mixing with an incompatible material. Chemicals can also release toxic vapors if improperly handled or stored. Some pool chemicals self-react over time, and natural decomposition may include chlorine gas which can be highly corrosive to piping and other metal objects in poorly ventilated areas. Some of these chemicals are often packaged in “breathable” containers to avoid pressure buildup while in storage.



Pool chemicals that come into contact with an employee’s skin, eyes, respiratory, or digestive system can cause injury. Some chemicals will react upon exposure to moisture on the skin, and in the respiratory or digestive system. Injuries can occur from direct chemical contact with the skin or chemical dust or fumes in the air.

Personnel at all facilities where these types of chemicals are used and stored should understand the hazards associated with these chemicals. Written procedures for handling and storing pool chemicals should be established, posted, and followed by trained employees.

The following suggestions cover the basic areas that should be considered when handling and storing pool chemicals:

- All pool chemicals should be safely stored and handled and facilities should be properly maintained. Routine inspections should be made at facilities.
- Keep pool chemicals dry. Maintain designated areas for pool chemical storage so that water does not come in contact with containers or packaging.
- Avoid improper chemical mixing. For example, acids and chlorine should not be stored next to each other, liquids should not be stored above dry chemicals, and bagged chemicals should be kept off of the floor. Review chemical handling tasks and storage arrangements to identify situations where chemicals could be improperly or accidentally mixed.
- Avoid storing chemicals near sources of combustion. Do not store combustible or flammable materials near the chemicals. Similarly, do not allow flammable fuels or gas powered equipment in the storage area.
- Protect employees from Exposure. Chemical manufacturer’s safety instructions and Safety Data Sheets should be used as a guide for selection of the appropriate personal protective equipment and chemical use necessary to protect employees.
- Personnel should plan for emergencies and work with local first responders to have a plan in place to mitigate incidents that may occur.

Helpful Resources

The United States Environmental Protection Agency’s *Safe Storage and Handling of Swimming Pool Chemicals* was used as a resource for this article.

Other resources for swimming pool operators include www.cdc.gov/healthyswimming. The United States Centers for Disease Control website dedicated to aquatics safety has “Information for Aquatics Staff,” including posters.

The Chlorine Institute has a pool chemical safety video on its website (www.chlorineinstitute.org). Look under “Stewardship” for the Institute’s “Pool Chemical Safety Video.”

For more aquatics risk management tips, obtain a copy of the TMLIRP Aquatics Risk Management DVD and manual by sending an email to lossprevention@tmlirp.org.

