

Hazard Controls for Handling Pool Chemicals

WASHINGTON -- Pool chemicals can cause injury if they contact a person's skin, eyes, or respiratory or digestive systems. Facility management is responsible for knowing and understanding the hazards associated with these chemicals and ensuring that pool chemicals are safely stored and handled.

The EPA says that hazardous substances are capable of being safely handled day-after-day through a management system that ensures that good, written procedures are prepared, posted, and followed by trained employees.

Also, the facility needs to be properly designed and maintained. Finally, facility management should very carefully plan for emergencies and work with first responders to mitigate incidents that occur.

Recommendations for addressing the major hazards associated with pool chemicals are described below.

Keep pool chemicals dry. Facility management should design and maintain designated areas for pool chemical storage so that water does not come in contact with containers or packaging.

Any evidence of potential water entry from the following possible sources should receive prompt corrective attention:

- Roof, windows, and doors;
- Wall and floor joints;
- Water pipes or hoses and sprinkler systems; and drains.

You should look for ways to prevent water contact with stored pool chemicals such as:

- Close containers properly;
- Cover opened or damaged packaging;
- Store chemicals away from doors and windows;
- Ensure that there are no roof leaks, open or broken windows, or leaks from water pipes, hoses, or the sprinkler system;
- Ensure that floors are sloped to keep water drained away;
- Store chemicals on shelves or pallets to keep containers off the floor;
- Use waterproof covers on packaging;
- Exercise particular caution to prevent water contact with stored chemicals any time water is used for cleanup of floor areas near stored packages; and
- Ensure that water will not back up from faulty or clogged floor drains.

Avoid chemical mixing. Conduct a review of chemical storage arrangements and chemical handling tasks to identify situations where chemicals could be intentionally or accidentally mixed:

- Separate incompatible substances; avoid storing containers of liquids above containers of other incompatible substances;
- Do not mix old chemicals with fresh chemical, even if they are the same type;
- Consider separate, designated tools for each chemical. Handle only one chemical at a time and make sure that tools used with one substance are not used with another unless all residues are removed;
- Use separate, designated containers for cleanup of spilled materials to avoid inadvertent mixing of spilled substances. Consult your local hazardous waste disposal facility for more detailed information on proper waste disposal; and
- Make chemical storage area housekeeping a priority. Don't allow rags, trash, debris, or other materials to clutter hazardous material storage area. Keep combustible and flammable substances away.

For personal protection always consider that the chemical will immediately react when wetted by perspiration, tears, mucus, and saliva in the nose, throat, and respiratory and digestive systems.

Such injuries may occur from direct chemical contact with the skin or if chemical dust in the air contacts eyes, is inhaled, or settles on food that is consumed.

Protect Employees from Exposure. Consult the chemical manufacturer's safety instructions as well as the Material Safety Data Sheets (MSDSs) for guidance on the appropriate personal protective equipment (PPE) necessary to protect your employees. Also, share MSDSs with local emergency medical responders and practitioners.

The following protective measures address conditions that may arise during normal operations or the execution of routine tasks. If, however, additional information is needed for fire, spill, or release intervention, we suggest that you contact the LEPC (see Other Useful Websites).

See that PPE is kept clean, in proper operating condition, and available for use when needed and that the following practices are observed:

Use basic PPE including, as a minimum, chemical goggles and liquid impervious gloves, and boots for any chemical handling activities.

For frequent or extended chemical handling activities, add a face shield and liquid impervious apron or coveralls to the basic PPE.

As a minimum, use a National Institute for Occupational Health and Safety (NIOSH) approved air-purifying respirator, when airborne chemical dust or mist may be present. 29 CFR 1910.134 Respiratory Protection covers the OSHA requirements for respiratory protection.

For additional information on proper selection and use of PPE, consult the OSHA regulatory standards.

In addition:

- Consider development of work practices to minimize dust generation and accidental contact with pool chemicals;
- Provide a means of ready access to water (e.g., safety showers, eye wash stations, etc.) for removal of chemicals that may accidentally contact employees;
- Consider appropriate first aid and coordinate with local first responders and medical professionals for treatment of accidental exposure until professional medical treatment can be provided;
- Avoid accidental ingestion by storing and consuming foods and beverages away from chemical storage and handling locations, and ensure that employees wash before eating, drinking, etc.; and post the numbers for the local emergency responders, and medical practitioners that are familiar with the appropriate.