
SOLD IN THE CASE ONLY
ORM-D


DANGER
HAZARDOUS POOL CHEMICALS


hth
shock 'n swim
3
shock


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KEM-TEK
MURIATIC ACID
Powerful pH Reducer for Swimming Pools
POISON


ALGAE CONTROL


nu-clo
Concentrated
Granules

What's on the agenda?

- Proper Storage & Handling
- Training for Employees/Staff
- Spill Response, Emergency Procedures
- Personal Protective Equipment
- In-compatible Chemicals
- Illegal Disposal
- Transportation
- Maintenance and Repair
- Accidents

Pool Chemical Injuries Send Thousands to ER Each Year

- Pool chemical injuries account for as many as 5,200 emergency room visits each year.
- A study by the Center of Disease Control (CDC) and Prevention shows that these injuries are preventable, and almost half of those injuries occurred at a residence.
- Persons are injured by inhaling fumes when they open pool chemical containers, attempting to pre-dissolve pool chemicals, or handling them improperly.

Proper Chemical Storage

Proper Storage - Do's ☺

- **Store Chemicals Separately**
  - **Hazard Class, avoid combustibles**
  - **Separate all chlorine products from one another** (for example, liquid chlorine, calcium hypochlorite, and stabilized chlorine products dichlor or trichlor).
- **Keep the Pool Chemical Storage Area Well-Maintained**
  - **Results in less spills, cross-contamination/reactions**
  - **Good house keeping**
- **Store Chemicals in a Cool, Dry Place**
  - **Avoid High Heat and Sunlight**
  - **Container Damage**
  - **Rain & Excessive Moisture**
- **Store Pool Chemicals in a Secure Location**
  - **Out of the Reach of Children & Pets**
  - **Store chemicals in original, manufacturer's-labeled containers.**
  - **Exposure**
- **Use All of the Chemical Before Disposal**
  - **Proper use and disposal**
- **Use Caution When Opening Containers to Avoid Splashing**
  - **Reduce exposure**

Proper Storage - Don’ts ☹

- **DON'T Mix Chemicals or Chlorine Products**
  - Hazardous reactions/Heat/Explosions
- **DON'T Dispose in Trash or Sewer**
  - Illegal disposal
- **DON'T Store Liquids Above Solids**
  - If they leak…….

- **DON'T Allow Chemicals to Come in Contact with Oil, Grease, Acid, Etc.**
  - Could cause immediate adverse reactions
- **DON'T Smoke in the Vicinity of Pool Chemicals**
  - Common sense, hand to mouth
- **DON'T Use Other Cleaning Compounds When Cleaning Up Chemical Spills**
  - Incompatible reactions, toxic gasses

Chemical Handling

- Training:
  - Only allow those who have been trained in safe chemical storage and handling practices to handle pool chemicals
  - Post instructions on safe chemical handling practices in the chemical storage area and pump room. These messages should include:
  - Read product labels or MSDSs.
  - Use only pool chemicals in original manufacturer's labeled containers. Never guess the identity of unlabeled chemicals. If a chemical is in an unlabeled container, do *not* use it.
  - Use appropriate PPE when handling pool chemicals.

Chemical Handling

- For applying the chemical to the water directly at poolside, do so in an area where the wind or ventilation carry product dust or fumes away from yourself or others.
- Do *not* mix individual pool chemicals together or with any other substances.
- Dedicate equipment — such as scoops, buckets, crocks, and their lids — to one pool chemical. Do *not* use this equipment for any other chemical.
  - Label the equipment to indicate which chemical to use with it.
- Use only dry equipment (for example, scoops) when handling chemicals.
- Wash hands after working with pool chemicals.

Personal Protective Equipment

Personal Protective Equipment

- Pool chemicals can cause injury if they directly contact a person's skin, eyes, or respiratory or digestive system.
- The chemical will immediately react when wetted by perspiration, tears, mucus, and saliva in the nose, throat, and respiratory and digestive systems.
- Material Safety Data Sheets (MSDSs) for guidance on the appropriate personal protective equipment (PPE) necessary to protect your employees.

Personal Protective Equipment

- Kept it clean & in proper operating condition, and available for use when needed.
- Chemical goggles/safety glasses
- Liquid impervious gloves
- 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.

Personal Protective Equipment

- 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 you or someone else.
- 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 and drinking.

Employee Training

- Check out Occupational Safety and Health Administration (OSHA) resources: Chemical Hazard Communication (OSHA 3084) at www.osha.gov/Publications/osha3084.html
  - Employers are responsible for informing employees of the hazards and the identities of workplace chemicals to which they are exposed.
  - Identify and list hazardous chemicals in their workplaces.
  - Obtain MSDSs and labels for each hazardous chemical.
- Develop and implement a written hazard communication program, including labels, MSDSs, PPE, First Aid, and Emergency Response Basics.

When do you need a permit for chemical storage?

- Each business shall prepare a HMBP if that business uses, handles, or stores a hazardous material (including hazardous waste) or an extremely hazardous material in discloseable quantities greater than or equal to the following:
- 500 pounds of a solid substance
- 55 gallons of a liquid
- 200 cubic feet of compressed gas
- Extremely hazardous substances in threshold planning quantities

Hazardous Materials Business Plan (HMBP) & Permit Requirements

- Obtain a permit from the Hazardous Materials Division
- Prepare a HMBP
  - Inventory and Site Map
  - Emergency Response Plan and Owner/Operator Identification
  - Employee Training
- Periodic Inspections, proper storage, handeling, HMBP review.

Incompatibles

Incompatible chemicals

- Improper Mixing
  - Pool chemicals are inherently incompatible with each other.
    - High temperatures, exothermic reactions, fires
    - Toxic and corrosive chlorine gas.
    - Reactions have also been traced to the mixing of old (partially decomposed) and new chemicals of the same type with contaminates.
- Cross Contamination
  - Tools and equipment used to handle one chemical were used with a different chemical before being cleaned.
  - Consider separate, designated tools for each chemical.
- Storage Problems:
  - chemicals, such as sodium hypochlorite (bleach), if spilled, can leak into other containers or seep into cracks in the floor. Liquids, because of their properties, can create hazards not associated with solid or granular products and must be carefully handled.

Got A Spill?

- Respond to pool chemical spills immediately.
- Use separate, clean, designated containers for cleanup of spilled materials to avoid inadvertent mixing of spilled substances and impurties.
- Do *not* pour spilled chemicals down the drain or sewer.
- In the event of an offsite release or injuries, call for Help-911.
- May require additional release reporting/notifications to local and state agencies.

Illegal Disposal

Illegal Disposal

- If you dispose of containers that are not totally empty…
  - Residues
  - Liquid or solid wastes….
- This can cause hazardous reactions with other things in the trash resulting in fires or toxic gas production that may result in injury or public evacuations and most likely a big bill….
- Not to mention other legal issues….

Illegal Disposal

- All hazardous wastes have to be properly disposed of by a hazardous waste contractor under a uniform hazardous waste manifest.
- Use all of your product for its intended use!

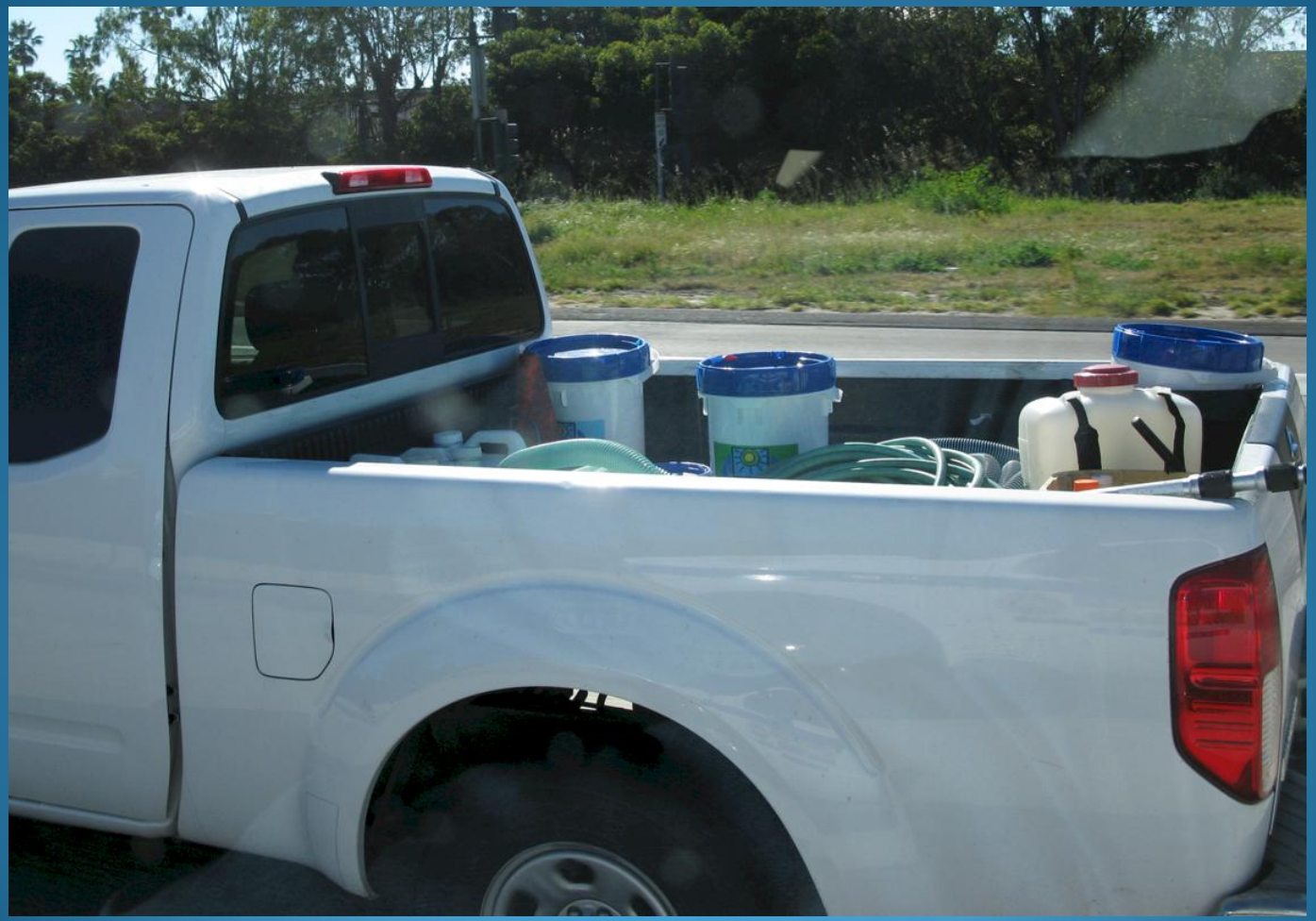
Small business disposal options are available call 619-338-2231

EDCO Transfer Station

EDCO Transfer Station

EDCO Transfer Station

Transportation



Transportation Department of Transportation (DOT) Requirements

- Whether you are self-employed or work for a large company, and you carry hazardous materials as part of your job, you must comply with the Hazardous Materials Rule (HMR) published in Title 49, Code of Federal Regulations (49 CFR), Parts 171-180.
- Large Quantities
- Smaller Quantities- Materials of Trade (MOT)
  - To directly support a principal business , for example, landscaping, pest control, painting, plumbing, or welding services.

Smaller Quantities- Materials of Trade (MOT)

What Hazardous Materials Qualify as MOTs?

To be a Material of Trade, the hazardous material must fit into any one of the following classes or divisions:

Class or Division	Examples
Flammable Gases (Division 2.1)	acetylene, propane
Non-flammable Gases (Division 2.2)	oxygen, nitrogen
Flammable or Combustible Liquids (Class 3)	paint, paint thinner, gasoline
Flammable Solids (Division 4.1)	charcoal
Dangerous When Wet Materials (Division 4.3)	some fumigants
Oxidizers (Division 5.1)	bleaching compounds
Organic Peroxides (Division 5.2)	benzoyl peroxide
Poisons (Division 6.1)	pesticides
Some Infectious Substances (Division 6.2)	diagnostic specimens
Corrosive Materials (Class 8)	muriatic acid, drain cleaners, battery acid
Miscellaneous Hazardous Materials (Class 9)	asbestos, self-inflating lifeboats
Consumer Commodities (ORM-D)	hair spray, spray paints

Quantity Limits for Materials of Trade (MOT)

- No more than a combined **gross weight of 200 kg (440 lbs)** of Materials of Trade can be transported on any one vehicle.
- •If lower hazard –belongs to Packing Group II or III, the maximum amount of material in each package is **30 kg (66 lbs) for solids, or 30 L (8 gal) for liquids.**

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- If a hazardous material is a high-hazard material (Packing Group I), the maximum amount of material in one package is 0.5 kg (one lb) for solids, or 0.5 L (one pt) for liquids.

Quantity Limits for Materials of Trade (MOT)

- For Division 4.3 materials (only Packing Group II and III materials are allowed) the maximum amount of material in each package is 30 ml (one oz.)
- Each cylinder containing a gas (Division 2.1 or 2.2) may not weigh more than 100 kg (220 lbs.)
- A diluted mixture of a Class 9 material (not exceeding 2% concentration) may be transported in a tank having a capacity of up to 1500 L (400 gal.)

Quantity Limits for Materials of Trade (MOT)

- Materials of Trade also have packaging and marking requirements that help increase safety.
  - Must be the manufacturer's original packaging or a package of equal or greater strength and integrity.
  - The packaging must be marked with the proper common or a shipping name from the HMR (such as "Isopropyl Alcohol".)
  - Packagings must be leak tight.
  - Packages must be securely closed, secured against movement, and protected against damage.

Past Incidents

December 1998

Auburn, New Hampshire

- Small explosion and vapors were released when about a cup of swimming pool chemical was improperly disposed of at a regional waste treatment station. Four minor injuries. Waste treatment station was shut down.

July 1998
Dayton, Ohio

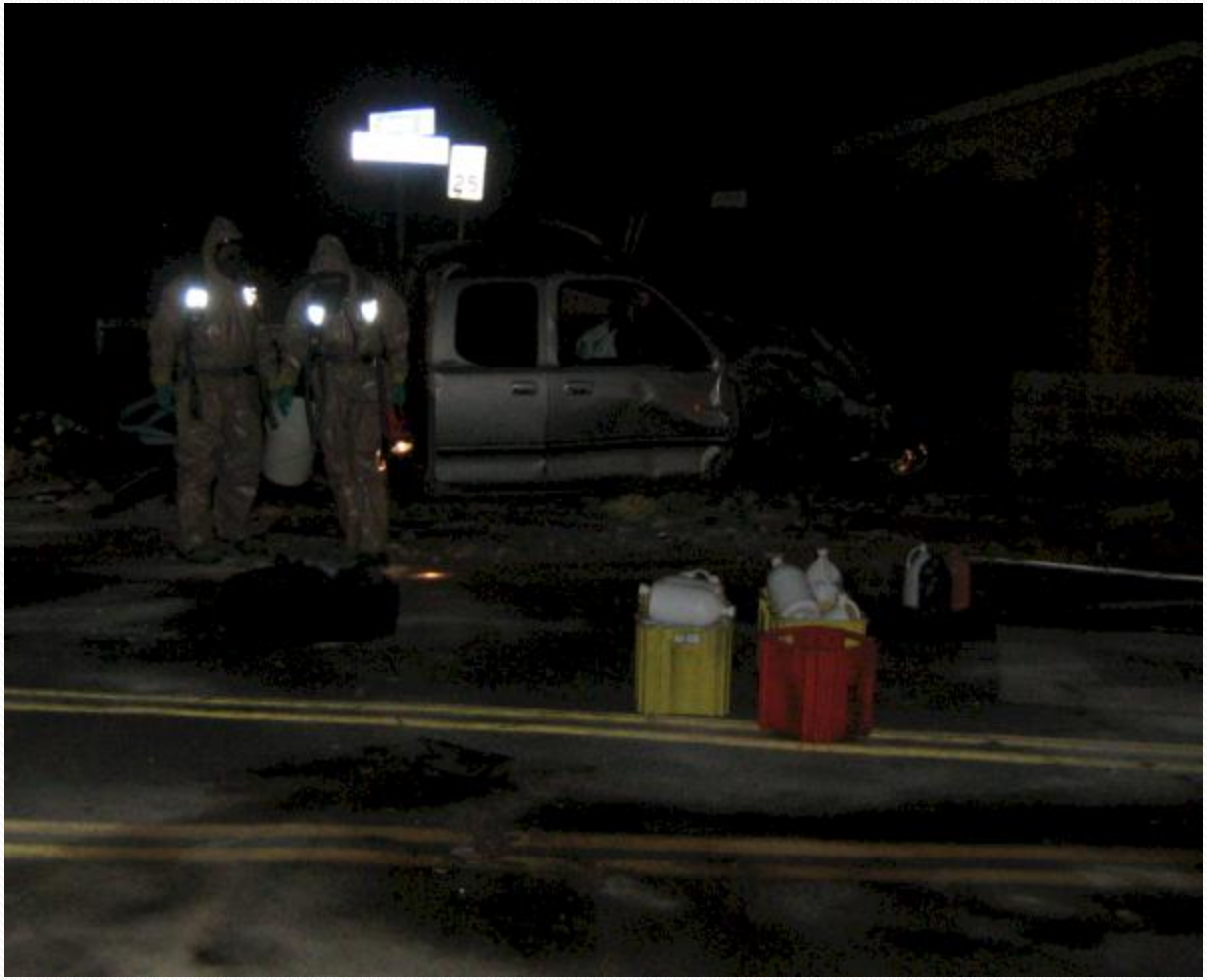
- Toxic cloud was generated when muriatic acid was inadvertently mixed with a chlorinator product at local community center swimming pool.
- Nine people sent to the hospital.

July 1999
Richmond, Virginia

- Chemical exploded as it was prepared for release into apartment complex pool. One employee injured.

Vehicle Accidents

Pool Truck Accidents




SAF
14 10:32AM


14 10:21AM


14 10:23AM

Summary

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It’s Friday, enjoy the weekend!