



Town of Paradise

Development Services

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Storage and Display of Swimming Pool Chemicals

The Town of Paradise wants to inform business owners, operators, and customers that pool chemicals can cause injury or harm to others if they are improperly stored or handled. The Town of Paradise has prepared this brochure to assist business owners, operators, and customers so that pool chemicals can be stored in compliance with the California Fire Code (CFC).

It should be kept in mind that swimming pool chemicals are hazardous materials. A fire involving swimming pool chemicals liberates toxic and corrosive smoke that may contaminate food, pharmaceutical products, and other nearby commodities, potentially increasing the loss because of the cost for removal and replacement of fire-damaged products. Please distribute this brochure and discuss the information with your store managers, staff, and loss prevention staff.

Permits:

- Town of Paradise Hazardous Materials Permit is required for businesses that store or display more than 10 pounds of Class III Oxidizers, 100 pounds of Class I Oxidizers, or more than 55 gallons of Corrosive Liquids.

Pool Products:

- The most prominent swimming pool chemicals stored and displayed are trichlor-s-triazirone (aka, Trichlor), sodium dichloroisocyanurate (aka, Iso's), calcium hypochlorite (aka, Cal Hypo), and hydrochloric acid (aka, muriatic acid). These chemicals are oxidizers and corrosive. Oxidizers will not burn but they will rapidly accelerate burning if heated, mixed with water, or become contaminated. Of all the pool chemicals calcium hypochlorite is the most reactive. It is incompatible with other oxidizing pool chemicals, muriatic acid, and most other hazardous materials such as flammable and combustible liquids, antifreeze, motor oil, and pesticides.

Storage Arrangement:

- Storage and display of solids and liquids shall not exceed 200 pounds and 20 gallons per square foot respectively of floor area actually occupied by solid merchandise (CFC 5003.11.3.1).
- Display height shall not exceed 6 feet in height above the finished floor (CFC 5003.11.3.2).

- Individual containers less than 5 gallons or less than 25 pounds shall be stored or displayed on pallets, racks, or shelves (CFC 5003.11.3.3).
- A minimum 20-foot separation is required between *incompatible materials* when stored in containers having a capacity of *greater* than 5 pounds or 0.5 gallons (i.e.: calcium hypochlorite and muriatic acid). Town of Paradise does permit non-hazardous products and goods to be displayed within the 20-foot separation. Another option is to install noncombustible vertical barriers that separate *incompatible materials* (CFC Section 5003.9.8).
- Storage and displays of pool chemicals is limited to a maximum storage height of 6 feet in display areas and shall not exceed 8 feet in height in storage areas (CFC Section 5003.11.3.2).
- Liquid products are not permitted to be stored above solid swimming pool chemicals (NFPA 430 Section 9.2.2).
- Individual containers of swimming pool chemicals shall not exceed 100-pounds or 10-gallons capacity (CFC Section 5003.11.3.6).
- Aisles at least 4 feet in width shall be maintained on three sides of a palletized or solid-pile display of swimming pool chemicals (NFPA 430 Section 9.2.10 and CFC Section 5003.11.3.9).
- A storage plan illustrating the intended storage arrangement, including the location and dimensions of aisles, and storage racks protected with in-rack sprinklers shall be provided (CFC 407.6 and 5001.5.1 (7))

Quantity Limits:

- The Town of Paradise Fire Code limits the amount of hazardous materials that may be stored and displayed inside a retail store. The Town of Paradise Fire Code limits the quantity of swimming pool chemicals based on the hazardous materials classification and if the store is protected by an automatic sprinkler system. The quantity limits for the identified hazard classes of swimming pool chemicals are indicated in the following table for S and M occupancies.

Swimming Pool Chemicals	International Fire Code Hazard Classification	Maximum Allowable Quantity in Sprinklered	Maximum Allowable Quantity in Non-Sprinklered
Calcium Hypochlorite (65% avail. Chlorine)	Solid Class III Oxidizer	2300 lbs	1150 lbs
Sodium dichloro-s-triazinetrione (sodium dichlorisocyanurate)	Solid Class III Oxidizer	2300 lbs	1150 lbs
Sodium dichloro-s-triazinetrione dehydrate	Solid Class I Oxidizer	36,000 lbs	18,000 lbs
Trichloro-s-triazinetrione (trichloroisocyanuric acid)	Solid Class I Oxidizer	36,000 lbs	18,000 lbs
Muratic Acid	Corrosive Liquid	2,000 gal.	1,000 gal.
Sodium Hypochlorite (<15% by volume)	Corrosive Liquid	2,000 gal	1,000 gal.

Fire Protection:

If your store is protected by an automatic sprinkler system or fire alarm system, ensure that the system has been inspected within the year. An approval tag should be affixed to the sprinkler riser. If the store staff cannot locate the tag, or it's been more than 12 months since the most recent inspection, a fire protection contractor must perform the inspection. (CFC Section 901.6).

- The Chemicals used in many portable fire extinguishers can adversely react with most oxidizing swimming pool chemicals. In the area where pool chemicals are stored, the fire extinguisher should use water. Known as air-pressurized-water extinguishers, these devices can be safely used to control a fire involving a swimming pool chemical. (NFPA 430 Section C.2.1.1). Extinguishers designed for use on Class A, B and C fires that use potassium bicarbonate or mono-ammonium sulfate are not permitted. (NFPA 430 Section 4.11.6).

- Calcium hypochlorite shall be provided with a means of temperature control that maintains the storage room temperature control that maintains the storage room or area at a temperature of 52°C (125°F) or less. Storage above this temperature for an extended period of time (5 days or more) may result in decomposition, evolution of chlorine gas, and heat sufficient to ignite combustible products (NFPA 430 Section D.3.1).

Training and Emergency Procedures:

- Store employees who handle swimming pool chemicals should be trained in storage, handling practices, manufacturer's instructions, and in accordance with your company's guidelines for hazardous materials (CFC Section 5003.9.1).
- When an employee or store patron identifies a container that has been damaged, it should be removed from the display aisle and moved outside the building. Disposal of the material should be in accordance with the manufacturer's instructions. If the container is warm to the touch, emitting vapors, hissing, bubbling or bulging a reaction is likely to have begun. In such a case contact the Town of Paradise by calling 911 (NFPA 430 Section C.2).
- For further information and questions please contact:
 - Town of Paradise : (530) 872-6291 ext.123
 - National Fire Prevention Association (NFPA): www.nfpa.org
 - Chemtrec: 1-800-424-9300

