



A publication of Fairfax County, Virginia



CODE COMPLIANCE GUIDELINE

SWIMMING POOL CHEMICALS

AND FIRE SAFETY REQUIREMENTS RELATED TO POOL OPERATIONS

Office of the Fire Marshal
Fire Inspections Branch

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This publication outlines the Fire Prevention Code requirements related to the dispensing, storage, and use of common swimming pool chemicals (e.g., corrosive liquids and oxidizers) at water recreation facilities such as public swimming pools and waterparks located in Fairfax County and the towns of Clifton, Herndon, and Vienna. Fire safety requirements common to water recreation facilities and the roles and responsibilities of pool operators and life guards are also addressed in this publication.

Questions regarding the content of this publication should be directed to the Fire Inspections Branch at 703-246-4849 during regular office hours, Monday thru Friday, 8:00 a.m. to 4:30 p.m.

HAZARDOUS MATERIALS (Pool Chemicals)

Material Safety Data Sheets (MSDS) Required. MSDS for all hazardous materials shall be readily available on the premises as a paper copy. MSDS should be stored in a non-hazardous area such as an office or life guard room and not in pool chemical dispensing and storage areas. It is suggested that MSDS be kept in a dedicated binder or folder which is clearly marked "MSDS" for easy identification. MSDS can be obtained from the pool chemical supplier. (407.2)

Individual Container Identification Required. Individual containers of hazardous materials, cartons or packages shall be clearly marked or labeled in accordance with applicable federal regulations. (407.3)

All containers and packages should be properly sealed or closed and safely stored in accordance with the MSDS to prevent leakage, exposure or possible injury. In addition, containers should be safely stored on spill containment decking or pallets.

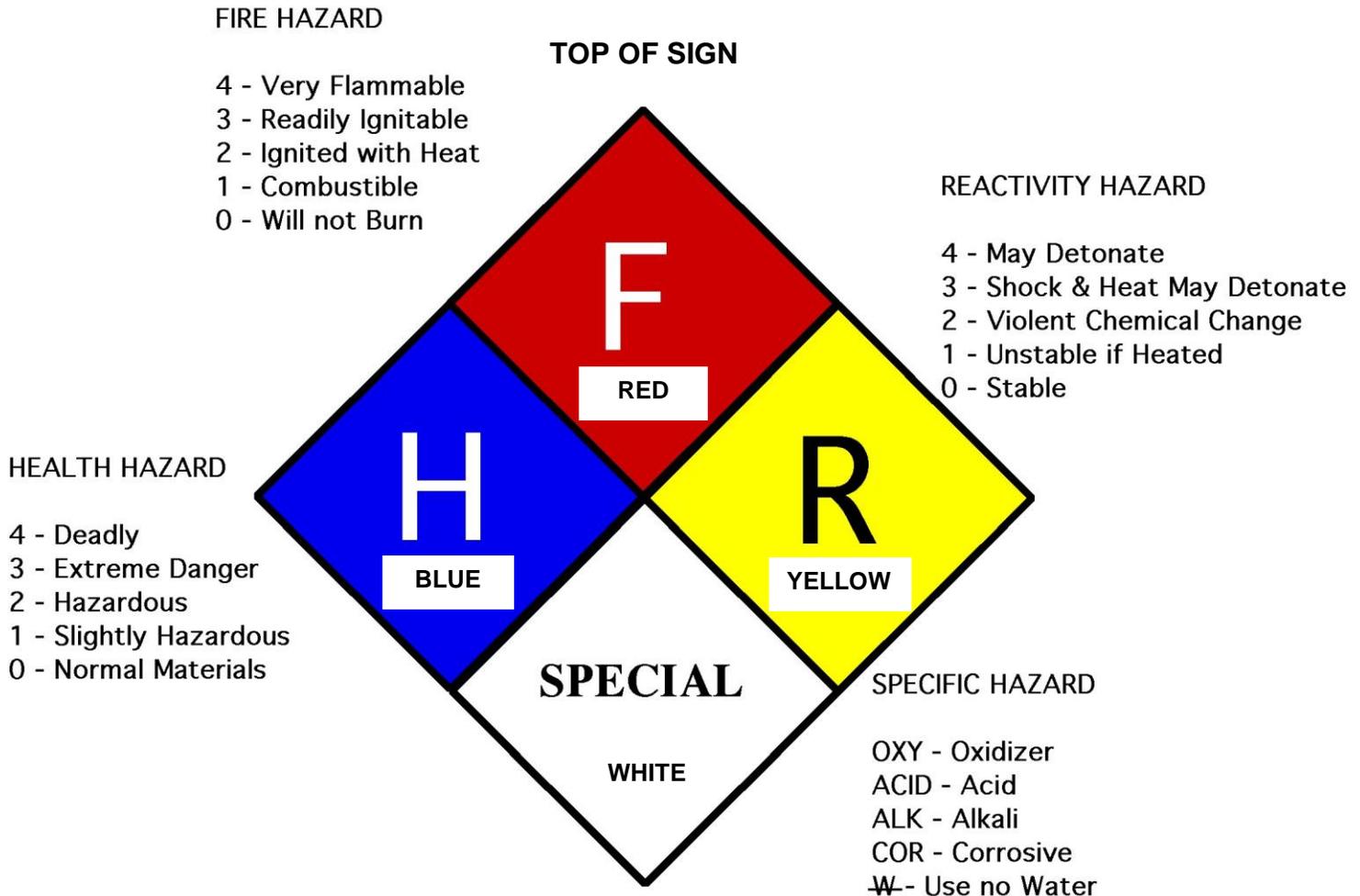
NFPA 704 Hazard Identification Signs Required. NFPA 704 hazard identification signs shall be provided at entrances to locations where pool chemicals are stored, dispensed, used or handled in quantities requiring a permit and at specific entrances and locations designated by the fire code official. (5003.5)

NFPA 704 signs shall be numbered and labeled for the hazards associated with the pool chemical(s). Numbering and labeling information is typically found in the MSDS. Where many chemicals are present, a single sign shall summarize the maximum ratings contributed by the material(s) in each category and the special hazard category for the building and/or the area. NFPA 704 signs may be obtained through industrial safety equipment suppliers, sign fabricators, or sign supply companies. (See Example on Page 2)

NFPA 704 Sign Maintenance & Visibility. NFPA 704 signs and markings shall not be obscured or removed, shall be in English as a primary language or in symbols permitted by the Fire Prevention Code, shall be durable, and the size, color and lettering shall be approved. (5003.6)

NFPA 704

Hazard Identification Sign and Markings



Separation of Incompatible Materials Required. Incompatible materials are materials that, when mixed, have the potential to react in a manner which generates heat, fumes, gases or byproducts which are hazardous to life or property. Material incompatibility information is typically found in the MSDS. All materials in storage and storage of materials that are incompatible with materials in use shall be separated when the stored materials are in containers having a capacity of more than 5 pounds or 1/2 gallon. Separation of incompatible materials shall be accomplished by any of the following: (5003.9.8)

1. Segregating incompatible materials in storage by a distance of not less than 20 feet.
2. Isolating incompatible materials in storage by a noncombustible partition extending not less than 18 inches above and to the sides of the stored material.
3. Storing liquid and solid materials in approved hazardous material storage cabinets.

Security of Hazardous Materials Required. Storage, dispensing, use and handling areas shall be secured against unauthorized entry and safeguarded in an approved manner. (5003.9.2)

Secondary Containment Required for Corrosive Liquids. Secondary containment is a level of containment that is external to and separate from primary containment. Buildings, rooms, or indoor areas with a total quantity of corrosive liquids (e.g., Sodium Hypochlorite, Muriatic Acid) dispensed or used in open systems exceeding 100 gallons shall be provided with secondary containment when the capacity of an individual vessel or system is greater than 1.3 gallons or the capacity of multiple vessels or systems is greater than 5.3 gallons. (5005.2.1.4)

Storage of Class 2 Oxidizers. Storage of Class 2 oxidizers such as Calcium Hypochlorite (50% or less by weight) and Bromine shall be limited to no more than 250 pounds in any control area within a building not protected with an automatic sprinkler system. This may be increased to no more than 500 pounds where an automatic sprinkler system is provided. (5003.1.1)

Release of Hazardous Materials Prohibited. Hazardous materials in any quantity shall not be released into a sewer, storm drain, ditch, drainage canal, creek, stream, river, lake or tidal waterway or on the ground, sidewalk, street, highway or into the atmosphere. (5003.3)

POOL OPERATORS & LIFE GUARDS

Hazardous Materials Familiarization & Training Requirements. Persons responsible for the operation of areas in which hazardous materials are stored, dispensed, handled or used shall:

1. Be familiar with the chemical nature of the materials and the appropriate mitigating actions necessary in the event of a fire, leak or spill. (407.4, 5003.9.1)
2. Be trained to liaison with the fire department which includes preplanning emergency responses and identification of the locations of hazardous materials. (407.4, 5003.9.1.1)
3. Have access to Material Safety Data Sheets (MSDS). (407.4, 5003.4)
4. Be knowledgeable in the on-site emergency response procedures. (407.4, 5003.9.1.1)

Notification of Emergency Responders (Call 911). In accordance with sections 401.3 and 5003.3.1 of the Fire Prevention Code, notification of emergency responders shall be as follows:

1. Fire Events & Alarm Activations. In the event an unwanted fire occurs on a property or upon activation of a fire alarm signal, pool operators and/or life guards shall immediately notify the fire department by calling 911.
2. Hazardous Materials Release. Any person who witnesses, discovers, or otherwise has knowledge of a spill, leak or other release of a hazardous material or other material that may negatively impact the environment, regardless of quantity, shall immediately report such spill, leak or release to the Department of Public Safety Communications (Call 911) and to the Office of the Fire Marshal by calling 703-246-4386 (Leave a Message).

To learn more about hazardous materials discharge/spill notification procedures, visit the Fairfax Joint Local Emergency Planning Committee (FJLEPC) online at: www.lepcfairfax.org

Emergency Procedures. Pool operators and life guards shall be able to reasonably articulate the following procedures related to the release or spill of hazardous pool chemicals:

1. Evacuate the pool, pool deck, and pool house. Direct persons to a safe area.
2. Immediately **Call 911** to notify emergency responders of the situation.

3. Retrieve MSDS (safely) and move to a safe area with MSDS in hand.
4. Administer first aid as appropriate. Consult MSDS for chemical-related first aid information.
5. Meet emergency responders with MSDS and explain the nature of the emergency.

FIRE SAFETY REQUIREMENTS

Emergency Exits & Pool Access Gates. Required exit accesses, exits or exit discharges shall be continuously maintained free from obstructions or impediments to full instant use in the case of fire or other emergency when the areas served by such exits are occupied. In addition, gates serving the pool area shall be available for use by pool staff in case of emergency. Pool staff shall be able to unlock all gates in the presence of the fire official. (1030.2, 503.9, 506.1.1)

Portable Fire Extinguisher(s). A portable fire extinguisher with a minimum rating of 2-A shall be conspicuously mounted within a travel distance of 75 feet for occupancies that involve primarily Class A fire hazards. Extinguishers with a Class C rating shall be required where energized electrical equipment can be encountered. Only water-type extinguishers shall be installed in areas containing oxidizers such as Calcium Hypochlorite, Trichloroisocyanuric Acid, and Bromine. Multipurpose dry chemical fire extinguishers shall not be installed in areas containing oxidizers. (906.1, 906.3, NFPA 10, 5.5.7)

Fire Extinguisher Maintenance. Extinguishers shall be readily accessible and immediately available for use and not obstructed or obscured from view. Extinguishers less than 40 pounds shall be installed so that their tops are not more than 5 feet above the floor. Extinguishers shall be inspected and maintained in accordance with NFPA 10 and have a current inspection tag indicating maintenance within the past 12 months. (906.5, 906.6, 906.9.2, 906.2)

Fueled Equipment Storage Prohibited Inside. Fueled equipment including, but not limited to, motorcycles, mopeds, lawn-care equipment, portable generators and portable cooking equipment, shall not be stored, operated or repaired within a building including pool chemical dispensing and storage areas. (313.1.1)

Combustible Material Storage in Buildings. Combustible material, including LPG, shall not be stored in boiler rooms, mechanical rooms or electrical equipment rooms. Where permitted, storage of combustible materials in buildings shall be orderly. Storage shall be separated from heaters or heating devices by distance or shielding so that ignition cannot occur. (315.3, 315.3.3)

Waste Accumulation Prohibited. Combustible waste material creating a fire hazard shall not be allowed to accumulate in buildings or structures or upon premises. (304.1)

Electrical Hazards and Open Circuits/Junctions Prohibited. Identified electrical hazards shall be abated. Electrical wiring, devices, appliances and other equipment that is modified or damaged and constitutes an electrical shock or fire hazard shall not be used. Open junction boxes and open-wiring splices shall be prohibited. Approved covers shall be provided for all switch and electrical outlet boxes. (605.1, 605.6)

Electrical Equipment Areas. A working space of not less than 30 inches in width, 36 inches in depth and 78 inches in height shall be provided in front of electrical service equipment. Where the electrical service equipment is wider than 30 inches, the working space shall not be less than the width of the equipment. No storage of any materials shall be located within the designated working space. Illumination shall be provided for service equipment areas, motor control centers and electrical panelboards (pump rooms). (605.2 & 605.3)

Fairfax County is committed to nondiscrimination on the basis of disability in all county programs, services and activities. Reasonable accommodations will be provided upon request. Materials such as this publication may be available in alternate formats. To request reasonable ADA accommodations or materials in alternative formats, call the Office of the Fire Marshal at 703-246-4803 (TTY: 711 or 1-800-828-1120) or write us at the following address: 10700 Page Avenue, Fairfax, VA 22030