



Swimming Pools Safe Working Practices

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Available guidance

Up-to-date guidance for managing the health and safety risks associated with swimming pool operations is contained in the HSE document "Management of health and safety in swimming pools" HS(G) 179. This document is an essential part of any pool operator's reference library and is available from;

HSE Books, P.O.Box 1999, Sudbury, Suffolk, CO10 6FS (tel: 01787 881165).

The book provides guidance for pool owners, operators, designers, engineers and others concerning the risks associated with swimming pool operation, and on precautions to help achieve a safer environment for both the public who use swimming pools, and employees who work at them.

The book recommendations on safe design, working methods and supervision should be followed insofar as they are relevant. In particular, attention should be paid to the sign posting of hazards; supervision of equipment; adequacy of written procedures, including emergency procedures; and organization and training of staff.

Safety must be a fundamental concern of every pool operator. The guidance describes standards of good practice, as a basis for decision-making by management on what solutions will work best locally.

POOL OPERATORS' RESPONSIBILITIES

The Health and Safety at Work etc. Act 1974

- employers have a general duty to ensure, so far as is reasonably practicable, the health and safety at work of their employees. This duty includes in particular the provision of safe plant and equipment, safe systems of work, a safe workplace, and the information, instruction, training and supervision needed to ensure safety.
- employers also have a general duty to ensure, so far as is reasonably practicable, the health and safety of persons other than employees who may be affected by the way in which the undertaking is conducted. This duty includes protecting the public using a swimming pool.
- any person in charge of premises, who makes those premises available to non-employees (either as a place of work, or as a place where they may use plant or substances provided) must take such measures as it is reasonable for a person in his position to take to ensure, so far as is reasonably practicable, that the premises, all means of access and egress, and any plant or substances provided are safe and without risks to health. The HSW Act definition of 'plant' is wide: it includes any machinery, equipment or appliance. This duty applies to protect contractors working at pool premises and the public who use the pool and diving boards, water slides etc.

Further advice on many subjects is available in the publications listed in the References section of the HSE book or the health and safety team (Town Hall, Torquay).

SAFE PRACTICE

Local Safe Practice at the Authority's pools must address the following:-

Maintenance:

Regular and correct maintenance of buildings, plant and electrical equipment is important in ensuring the safety and health of pool users and employees. Inspections, tests and thorough examinations must be carried out at frequent intervals. Records must be maintained of all inspections made and remedial works carried out. Floors, passages, ramps and stairs must be properly maintained and left free of obstructions and of any substance likely to cause slipping.

Training

Staff must be adequately trained for the duties they will carry out. Relevant records of such training must be maintained.

Unauthorized Areas

Effective measures must be taken to prevent unauthorized public access to a pool intended to be out of use. Particular consideration is needed where the public may have access - unauthorized, or otherwise - alongside a pool which is empty, or at a reduced depth. The need for edge protection must be considered where appropriate.

Accidents

All accidents must be reported on Torbay Accident/Occurrence forms (available from printing section) to the health and safety team, Town Hall, Torquay (tel: 207170). This includes accidents to members of the public as well as employees.

First Aid

Qualified first-aiders and adequate first aid facilities (refer to first aid policy in this manual) must be available for all foreseeable types of accidents to employees AND pool users.

Water Treatment System

Water treatment is subject to the requirements of the Control of Substances Hazardous to Health Regulations 1999 (COSHH). Management's written procedures must include an assessment of all the hazards associated with all aspects of operation of the plant and precautions to control the risks. Written records must be maintained and held available for inspection. Staff must be trained in all aspects of their duties and records must be kept of such training. Where treated water is released into the environment; its effect on surrounding ecosystems should also be assessed.

Supervision of Pool Users

Refer to HSE guidance for detail on how best to supervise pool activities. In general terms the pool operator must be fully conversant with the risks applicable to the particular pool. Pool rules should be sign-posted and enforced by pool attendants/lifeguards. It is essential to prepare a written "Assessment of Risk" before the season's activities commence. Other factors to be considered include behaviour, operating procedures, training, control of access, emergency procedures, water clarity, poolside supervision, communications, need for lifeguard and lifeguard training, shift patterns, tour of duty, rest periods and arrangements for any specialized activities including sports and social events.

A checklist is provided along with this document for operators to inspect and test their operating procedures (appendix A).

FREQUENTLY ASKED QUESTIONS**What are swimming pool chemicals?**

Swimming pool chemicals include various kinds of disinfectants and sanitizers, which work to control the growth of certain kinds of algae and bacteria in the pool water. Swimming pool chemicals may also be used in hot tubs, spas, wading pools, and whirlpools.

Various kinds of disinfectants and sanitizers are used but the "chlorine" type is the most common. The chlorine usually comes from "chlorinating agents" that release chlorine when they are dissolved in the water. Chlorine gas may be used in large pools.

The chlorine-based disinfectants may be called "chlorinating liquid", "dry chlorine" or "liquid chlorine". The so-called "dry chlorine" is actually one of the chemicals in granular or tablet form while "liquid chlorine" and "chlorinating liquid" are solutions of these chemicals dissolved in water. This document will summarize the safe use of these chlorinating agents but it will not discuss the use of chlorine gas.

What are the types of chlorinating agents?

There are two main types of chlorinating agents:

- inorganic chlorinating agents such as calcium hypochlorite, lithium hypochlorite, sodium hypochlorite, and;
- organic chlorinating agents such as trichloroisocyanuric acid, potassium dichloroisocyanurate, sodium dichlorocyanurate [as anhydrous or dihydrate forms].

Organic and inorganic chlorinating agents are not compatible with each other. Many incidents occur when the same scoop or pail is used for both chemicals without cleaning them or when adding one product after the other or in the pool chlorinator.

Why should I be careful when using and storing these chemicals?

Swimming pool chemicals can also be oxidizers and corrosives.

Oxidizing materials have the ability to react chemically to oxidize combustible (burnable) materials. To be an "oxidizer", the material itself provides oxygen which combines chemically with another material in a way that increases the chance of a fire or explosion. This reaction may be spontaneous at either room temperature or may occur with slight heating. Thus, oxidizing liquids and solids can be severe fire and explosion hazards. Bromine and fluorine are also oxidizers.

Corrosives are materials that can attack and chemically destroy body tissues on contact. Corrosives can also damage or destroy metal. The effects on tissues and metals depend on what the corrosive agent is and how concentrated it is. They can begin to cause damage as soon as they touch the skin, eyes, respiratory tract, digestive tract, or the metal. Safety Data Sheets provided by the supplier / manufacturer or product labels should be consulted for the specific effects on tissues or metals and for procedures to follow in cases of spills or splashes.

What are some tips for handling chlorinated swimming pool chemicals?

DO

- Read and follow instructions carefully. If there is anything you do not understand, ask your pool chemical supplier for help. Keep all chemicals out of the reach of children and pets.
- Containers should always be kept closed when not in use.
- Use separate, clean metal or plastic measuring cups for each chemical to transfer or measure chemicals. (Scoops should not be made of wood.)
- Wear appropriate protective equipment and clothing including gloves and footwear.
- Protect chemicals from moisture and water - such as a cup of water (or coffee!). Even putting the wet scoop back into the pail may cause a reaction.
- Always add the chemical to the pool water - never the other way around (never add water to the chemical).
- Wash your hands thoroughly after handling any chemicals

DO NOT

- Do not use contents of unlabeled containers
- Do not mix different chemicals together.
- Do not put spilled chemicals back into their containers.
- Avoid touching the undiluted chemicals with your hands.
- Do not smoke when handling chemicals.
- Do not expose to heat or flame.
- If a fire breaks out, do not use a "dry chemical" fire extinguisher. Only use large amounts of water. If you cannot extinguish the flame immediately, leave the area and call the fire department.

What are tips for safe storage of pool chemicals?

- Store in a cool, dry place away from sunlight.
- Keep out of reach of children and pets.
- Store chemicals in the original containers.
- Never store oxidizers and acid near each other. Oxidizers will release chlorine gas if they come in contact with acids.
- Do not store liquids above powders or solids.
- Do not store materials or chemicals above your head.
- Do not store pool chemicals near gasoline, algicides (algaecides), fertilizers, herbicides, grease, paints, tile cleaners, turpentine, or flammable materials. This tip is especially important when pool chemicals are stored in sheds or small storage rooms.
- Do not reuse containers. Wash out the container when empty and then dispose of it.

How should I clean up small spills?

Any spills larger than 50 kg should be handled as an emergency and the fire department called immediately. If in doubt of what to do, call the fire department or your local chemical spill emergency response centre.

Before cleaning up a small spill:

- Make sure that the material is dry and has not mixed with other chemicals.
- Do not clean if the chemicals has mixed with other materials (such as grass, paper, etc) or if the material is reacting (hissing, bubbling, smoking, gassing, burning) or the containers are bulging.
- If there is any sign that a chemical reaction is happening, evacuate the area immediately and contact your local fire department for help.

DO

- Wear protective gloves, boots and aprons made of butyl rubber or neoprene (or other material specified in the Safety Data Sheet).
- Wear safety glasses or goggles - goggles offer better protection against liquid splashes and airborne dust than glasses.
- Ventilate the area if indoors.
- Carefully place the spilled material in a clean, dry plastic bag or container. Place this filled plastic bag inside another bag when finished.
- Keep an eye on the material once it has been picked up. A reaction may be delayed.
- Dispose of the material according to manufacturer instructions and according to local regulations.

DO NOT

- Do not place spilled material back in the original container.
- Do not generate dust when cleaning up a powder or solid. The dust may react with the moisture on your skin and cause injury.
- If using a container to hold the spill, do not seal.

In general, what do I do if someone needs first aid?

- Call for medical help immediately.
- Quickly move victim away from the chemical
- Flush with lukewarm, gently flowing water until the chemical is removed.

- Gently remove clothing or jewellery that may restrict circulation or that may trap some of the chemical beneath it.
- Follow the first aid instructions on the container.

RISK ASSESSMENT

Swimming pool operators are required to carry out a suitable and sufficient risk assessment of their operations and to identify necessary control measures. A suitable and sufficient risk assessment would have to take account of the whole user population of the swimming pool and that drowning can occur very quickly indeed. Operators should take into account the guidance in HSG179 (see page 1) when deciding appropriate control measures. Only competent members of staff who have received risk assessment training should carry out risk assessments.

POOL SAFETY OPERATING PROCEDURES

Swimming pool operators need to have a written Pool Safety Operating Procedure (PSOP). Consisting of a Normal Operating Plan (NOP) and an Emergency Action Plan (EAP). All operating staff should be fully conversant with and trained to work in accordance with the provisions of the plans.

The NOP should set out the way a pool operates on a daily basis. It should include details of the layout, equipment, manner of use, user group characteristics and any hazards or activity-related risks.

The EAP should give specific instructions on the action to be taken, by all staff, in the event of any emergency.

Swimming Pool Checklist		
Name of Premises		
Date of Inspection		
Location of Pool		
Name of Person Responsible for Health & Safety		
Name of Person Responsible for Maintenance		
Max Number of Bathers Allowed		
Documentation / Assessment / Procedure		
	Satisfactory	Comments/Action Taken
Safety Policy	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Written Risk Assessment	<input type="checkbox"/> Yes <input type="checkbox"/> No	
COSHH Policy	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Written Operating Procedure	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Written Emergency Procedure	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Accident Book	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Safety signs / Information available to the public		
	Satisfactory	Comments/Action Taken
Profile Board (Overview of pool)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Signage for Non Supervised Pools	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Instructions to Bathers	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Hygiene Signs	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Emergency Signs	<input type="checkbox"/> Yes <input type="checkbox"/> No	
No Diving Signs	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Pool Tank / Surround		
	Satisfactory	Comments/Action Taken
Grill Size Below 8mm	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Outlet Entrapment Test	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Ladder/Steps – Trapping Hazard	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Grab Rails in Pool – Trapping Hazard	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Condition of Tank Finishes	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Condition of Fixtures	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Cleanliness	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Algal Growth	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Surround Non-Slip	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Are Persons using the Pool Accounted For	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Is access to the pool restricted	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Depth Markings at Change of Levels	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Adequate storage areas for pool floats/chemical/cleaning materials etc.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Pool surround clear of obstruction	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Emergency Alarm Button - Accessible	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Emergency Button – Signed	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Emergency Button – Correct Location Where/to who does it ring?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Electrical Safety	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Ventilation	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Heating	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Lighting	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Sanitary Facilities / Changing Rooms		
	Satisfactory	Comments/Action Taken
Adequate	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Clean	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Maintained	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Rescue Equipment / Personnel		
	Satisfactory	Comments/Action Taken
Poles	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Buoyancy Rings	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Other Aids	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trained Life Guards Present	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Nearest Trained Person		
Level of Trained Person		
Date of Training	/ /	
Telephone	<input type="checkbox"/> Yes <input type="checkbox"/> No	
First Aid Kit	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Qualified First-Aider Available	<input type="checkbox"/> Yes <input type="checkbox"/> No	
CCTV Surveillance: Is the pool under 24 hr surveillance?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Pool Water		
	Satisfactory	Comments/Action Taken
Chemical Dosing Method - Manual	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Chemical Dosing Method - Injection	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Water clarity	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Storage of chemicals/signs	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Other methods of treatment	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Chemical Tests		
	Satisfactory	Comments/Action Taken
Free available chlorine	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Total chlorine	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Combined chlorine	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Total bromine	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Combined bromine	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Free available bromine	<input type="checkbox"/> Yes <input type="checkbox"/> No	
pH (phenol red)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Testing		
Assessment./procedures	Satisfactory	Comments/Action Taken
Who carries out the tests?		
Level of training		
Date of training	/ /	
Are adequate records kept?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Is protective equipment available?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Any Other Comments:		
Signed	Date	