



Workers exposed to chlorine gas at aquatic centre

Background

Recently a worker at an aquatic centre was exposed to chlorine gas when he attempted to refill an unlabelled 100 litre chemical storage and dosing drum in a plant room at the facility. The storage and dosing drum contained sodium hypochlorite solution (known informally as “liquid chlorine”) and was used to dose liquid chlorine into two smaller pools at the facility. As the worker incorrectly added sulfuric acid to the drum, the two chemicals reacted, generating chlorine gas. The worker immediately exited the plant room and did not suffer significant injuries. However there was potential for both the worker and patrons of the facility to be exposed to significant levels of chlorine gas.



When the incident occurred these drums were not labelled and were almost identical in appearance. The photos show temporary labels applied after the incident.

Contributing factors

- The drum that contained liquid chlorine looked identical to another drum situated in the main plant room at the facility which contained acid. Both drums were unlabelled.
- The workers were not provided with adequate information regarding the contents of the two drums.
- The affected worker was incorrectly instructed to add the acid to the 100 litre drum by a supervisor.
- Although the worker and supervisor were qualified and had knowledge of pool chemicals, they were not provided with adequate information and training regarding the hazards specific to their workplace.
- The workplace did not have adequate instructions and procedures in place that addressed the task of refilling the 100 litre drums.
- The workplace had not carried out an adequate risk assessment on the task of refilling the 100 litre acid dosing drums.

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Action required

1. Clearly label all drums, tanks and vessels that contain chemicals at workplaces.
2. Conduct risk assessments on tasks involving handling hazardous chemicals at workplaces.
3. Provide workers with clear work instructions for tasks that involve handling hazardous chemicals at workplaces.
4. Ensure all workers are provided with adequate information, instruction and training regarding the tasks they are required to perform. This information must be specific to the employees' workplace and the tasks they are required to perform.
5. Where practicable, eliminate the need for employees to handle hazardous chemicals. For example, consider purchasing liquid chemicals in bulk containers, to eliminate the need for employees to manually refill storage and dosing containers with hazardous chemicals.
6. Provide comprehensive emergency management procedures, including training and drills.
7. Ensure all employees inadvertently exposed to hazardous chemicals are provided with medical attention.

Further information

- [Hazardous substances FAQs](#)
- Further information can be obtained from WorkSafe's customer services on 1300 307 877 or e-mail safety@commerce.wa.gov.au

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