

# SAFETY ALERT!



## Handling Hazardous Chemicals

This safety alert highlights the dangers associated with transferring or pumping hazardous chemicals, and suggests control measures that will help industry to manage the risk.

### Background

Two workers used a submersible sump pump to transfer chromic acid solution from an intermediate bulk container (IBC) to another vessel. While the pump was running, the outlet hose came off and sprayed chromic acid at high pressure over the two workers. The chromic acid ran into the workers' eyes. Serious eye injuries could have occurred, especially as one of them was wearing contact lenses.

### Contributing factors

- The hose was not adequately secured to the pump outlet.
- The workers had no experience using the pump. They were not adequately trained in its safe use - particularly how to secure the hose to the pump outlet correctly.
- The workers were not adequately supervised.
- The workplace did not have safe working procedures and safe systems of work for transferring hazardous chemicals.
- The workers were not supplied with the correct personal protective equipment (PPE) for conducting the task.
- The workplace did not have adequate emergency procedures for dealing with worker exposure to hazardous chemicals.
- The workplace did not have a Material Safety Data Sheet (MSDS) for the chromic acid solution to which the employees were exposed. There was only a MSDS for the solid chromium trioxide material used in the chromic acid solution. This was given to the doctor who initially treated the workers, but the information did not adequately inform the doctor of the hazards associated with exposure to the solution.

### Action Required

- Ensure safe systems of work (documented procedures) are in place for transferring hazardous chemicals at workplaces. The procedures should specify how to correctly select, prepare, operate, clean and maintain pumping equipment, as well as specify the correct PPE and any other controls required.
  - Ensure that workers are adequately trained in the safe system of work.
  - Ensure that inexperienced workers are adequately supervised.
  - Develop procedures for dealing with workplace emergencies, including exposure to hazardous chemicals.
  - Ensure that workers are trained in the procedures, and that the procedures are practised at regular intervals.
  - Ensure that adequate information (MSDS) is available at the workplace for all solutions or process fluids that contain hazardous chemicals to which workers may be exposed.
  - Consider the use of specialised chemical pumps, constructed of materials compatible with the hazardous substances transferred at the workplace.
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