

# Safety and health alert

## 06/05 Oxidiser sparks chemical fire

### Incident

Two employees were adding solid sodium chlorite to an intermediate bulk container half-full of water via a stainless steel funnel to make sodium chlorite solution. The funnel became blocked, and the employees used a wooden broom handle in an attempt to clear the blockage. The physical shock of the impact of the broom handle in combination with the presence of the wood (an organic material incompatible with sodium chlorite) caused an intense fire to break out.

While sodium chlorite doesn't burn, it is an oxidiser, which accelerates burning of combustible materials. The broom was burned and a hole was burned into the stainless steel funnel spreading to a nearby forklift. The heat of the fire caused the remaining sodium chlorite solid to decompose.



*Cleaning up after the fire*



*Fire damage*

### Factors to consider

- Oxidisers can react violently with a wide range of organic material including (but not restricted to) wood, paper, oil, grease and thinners.
- A formal risk assessment for the task had not been conducted. Had a risk assessment identified the potential for a blockage, the employees could have been advised to wash it through with water.
- Employees handling oxidisers need to be aware of the wide range of incompatible substances.

### Recommendations

1. Conduct and document a risk assessment for all tasks involving hazardous substances. This should involve a review of the material safety data sheet to identify hazards, and a review of the work conditions.



2. As far as practicable, the risks involved in foreseeable unplanned events such as equipment blockages and cleaning and maintenance work should be included in the risk assessment.
3. Sufficient information and training is required to ensure that employees have a good understanding of the incompatibilities of the substances they handle. Specifically, employees who may use or be exposed to a hazardous substance must be trained in:
  - the potential health risks;
  - the control measures used to minimise such health risks;
  - correct use of methods to minimise adverse health effects;
  - care and use of personal protective equipment; and
  - the need for and details of any health surveillance.

## **Further information**

For further information on this summary please contact Inspector Sally North on 9327 8777.

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