

# Safety and health alert

## 21/99 Unsafe system for mixing chemicals

### Incident

In early April 1999, a person working in a chemical processing workplace in Wangara suffered superficial burns to the face whilst mixing a flammable chemical product in a plastic two hundred litre container using an electric drill fitted with a stirrer.

The fire is thought to have been caused by vapours from the hazardous substance being mixed coming into direct contact with electrical arcing generated by the commutator of the drill's electric motor.

The worker was taken to Joondalup hospital for treatment.

The material safety data sheet (MSDS) of the chemical product being mixed indicates that it:

1. Contains petroleum naphtha and a high proportion of a de-aromatised hydrocarbon solvent. (Both are volatile hazardous substances.)
2. Has a "flashpoint" of 35 degrees Celsius.
3. Is a flammable liquid that should be kept away from heat, sparks and naked flames.

### Factors

1. The owner of the business did not identify the risks involved in mixing flammable substances.
2. The owner of the business did not review the MSDS of the chemical product before mixing.
3. The use of an electric drill resulted in an ignition source coming into direct contact with the flammable vapours emanating from the 200-litre container.

### Recommendations

All workplaces that handle hazardous substances must conduct a hazard identification and risk assessment in accordance with NOHSC Standard 3017-1994.

The assessment should include a review of the MSDS for each hazardous substance used at the workplace in the context of the system of work persons will be undertaking in respect of that substance.

Where plant is used with hazardous chemicals, reference should be made to hazards identified in the instruction manuals for the plant and these hazards should be considered during the assessment.



Persons exposed to hazardous substances at the workplace must, before commencing work, receive information and training on the potential health risks and any toxic effects associated with those hazardous substances. Records of this information and training must be documented and kept at the workplace. Occupational Safety and Health Regulation 5.21(2) refers.

Appropriate personal protective equipment as prescribed in the MSDS must be worn when working with hazardous substances.

## Further Information

Further information can be obtained from the WorkSafe internet site [www.worksafe.wa.gov.au](http://www.worksafe.wa.gov.au), or by contacting customer service on 1300 307 877 or email: [safety@docep.wa.gov.au](mailto:safety@docep.wa.gov.au).

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