

Safety and health alert

18/94 Fatal accident - hydrofluoric acid

Incident

Whilst sitting at a fume cupboard processing mineral samples a laboratory technician knocked approximately 100 mls of hydrofluoric acid onto his thighs. Immediate 10% body burns ensued. Despite rapid flushing with water and emergency hospitalisation he died 15 days later.

Factors

- Corrosive and systemic poisoning properties of hydrofluoric acid following dermal exposures ie. 2% body burns from 70% hydrofluoric acid may cause death.
- Failure to protect skin from exposure.
- Failure to restrain cups of hydrofluoric acid in secure holders.
- Failure to apply neutralising cream (calcium gluconate gel).
- Lack of emergency planning/facilities/personnel.
- Poor work station design.

Recommendations

1. Ensure that work is carried out in accordance with the Material Safety Data Sheet provided by the manufacturer/supplier.
2. Plan work in the knowledge that any exposure may cause permanent incapacity or death ie. absolute protection.
3. Where practicable substitute less dangerous substances.
4. Alert workers to the lethal properties of hydrofluoric acid.
5. Train workers in safe work procedures, personal protection and first aid/emergency procedures in accordance with the Worksafe Australia *Guide on Hydrogen Fluoride* 1989, available from Safe Work Australia's [website](#) and the WorkSafe WA bulletin [Working with hydrofluoric acid](#).
6. Ensure that safety showers, eye wash facilities and calcium gluconate gel are available wherever hydrofluoric acid is used.
7. Laboratories should conform to Australian Standard AS2243 for Laboratory Safety.
8. Persons should not work alone with hydrofluoric acid.

Further Information

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

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