MAKING TECHNOLOGY LEARNING SAFER

The issue of occupational health and safety is an important consideration for all school staff, but for technology teachers safety is also an integral component of student learning. All technology subjects involve students in practical, hands-on activities of designing and producing, using a variety of materials, substances, equipment and processes.

Whether the study occurs at the agriculture plot or in the workshop, design room, food preparation area or computer room, teachers need to be able to implement effective risk management strategies.

1. Risk management

The *Occupational Health and Safety Act 1983* requires that hazards in the workplace be identified, assessed and controlled.

Risk management is integral to Departmental approaches to safety in schools.

Risk management includes:

- identifying hazards
- assessing the risks
- eliminating or controlling hazards
- ongoing monitoring and review.

Identifying hazards

Hazards in the workplace can include:

- physical hazards, such as inadequate ventilation or lighting
- chemical hazards, such as exposure to solvents or pesticides
- biological hazards, such as fungi or pests
- mechanical or electrical hazards, such as unguarded machinery or frayed cords
- technical hazards, such as inadequate expertise and training
- psychological hazards, such as interpersonal conflict or lack of concentration.

Hazards can be identified through:

- formal site inspections of each technology learning space
- safety audits applied to specific teaching and learning contexts, such as a new unit of work or a different group of students or a temporary teacher
- day-to-day observations of such matters as the condition of equipment or the behaviour of an individual student
- analysis of existing school data, such as first-aid records, accident reports and maintenance schedules
- comments about near misses experienced by staff or students
- complaints by staff, students or community members
- accident investigations.

Assessing the risks

Following hazard identification, judgements need to be made about how dangerous the hazard is and its priority for action. Obviously the worst hazards must

be dealt with first and plans will need to be made for dealing with other hazards over time.

Hazards should be assessed according to:

- the severity of injury likely to be caused by a particular hazard
- the likelihood that the hazard will cause an injury.

The likelihood of injury in specific learning situations in technology will be influenced by:

- the nature of the particular teaching and learning activity
- the training, experience and ability of the staff involved
- the nature and condition of the materials, substances, equipment and facilities involved
- the age and maturity of the students involved
- the prior experience, training and competence of the student with the activity
- the capacity of the student to work independently.

Eliminating or controlling hazards

If a significant risk exists, then the teaching and learning activity must be changed to eliminate or control the risk.

According to *Hazpak* there are four ways of dealing with hazards, listed below in order of effectiveness, from most effective to least effective

1. Eliminate the hazard.
2. Change the equipment or materials.
3. Change the work methods.
4. Use personal protective equipment.

Whilst training is important, it will not prevent people from having accidents. Training is not a substitute for eliminating hazards.

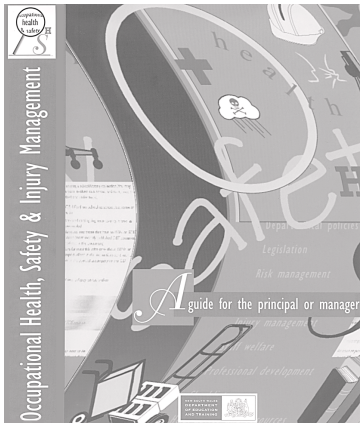
The publication, *Hazpak: Making your workplace safer. A practical guide to basic risk management* (WorkCover NSW) has been distributed to schools in *Occupational Health, Safety and Injury Management: A guide for the principal or manager*.

Ongoing monitoring and review

Like all effective processes, risk management is cyclical. Ongoing monitoring and review lead to further hazard identification, assessment and change.

2. Workplace procedures and guidelines

During Term 3, 2000 the NSW Department of Education and Training published a guide entitled *Occupational Health, Safety and Injury Management: A guide for the principal or manager*.



The guide is based on the principles that:

- the Department of Education and Training (DET) recognises its responsibility for the health, safety and welfare of its employees;
- all employees have a responsibility to ensure the health and safety of themselves and others; and
- all employees, students and visitors at a DET workplace have the right to expect that their health will be of paramount importance to everybody else.

The guide provides information and advice for principals and other staff members to develop or revise their own workplace procedures and guidelines for occupational health and safety.

Areas covered in the guide include:

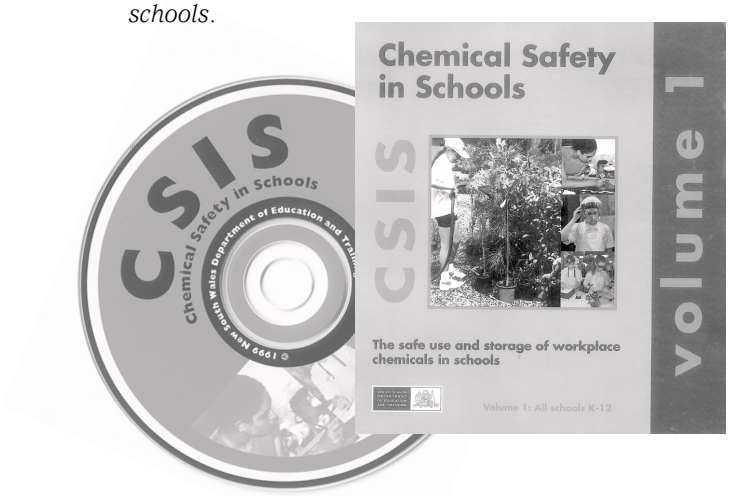
- Legislation
- Risk management:
  - hazard identification
  - workplace, physical and psychological hazards
  - risk assessment, and
  - safety audits.
- Specific important issues:
  - stress and morale
  - manual handling
  - machinery, tractors and ride-on mowers
  - violence
  - emergency evacuation procedures
  - supervising unpaid workplace learning placements
  - slips, trips and falls.
- Management of workplace injury
- Staff welfare.

District offices should have implemented a one-day training program for all principals by 31 October, 2000. The training program is based on the guide and addresses the legal requirements for OH&S, risk management and the principal's responsibilities in schools. It also provides practical ideas about effective procedures and approaches to OH&S in schools.

One copy of the guide is provided to each government school.

3. *Chemical safety in schools*

During Term 3, 2000 the NSW Department of Education and Training released to schools the resource package, *Chemical Safety in Schools (CSIS): The safe use and storage of workplace chemicals in schools*.



This resource package provides up-to-date information on chemical safety and assists schools to meet mandatory legal requirements.

The package addresses the *Occupational Health and Safety (Hazardous Substances) Regulation* 1996, the *Dangerous Goods Act* 1975 and the related *Dangerous Goods Regulation* 1978.

Volume 1 was supplied to all schools and focuses on developing staff understanding about relevant legal obligations. At the core of these obligations is the OH&S regulation which requires an assessment of the risks to health which might arise from work involving exposure to hazardous substances.

Volume 1 provides teachers with clear guidelines for completing a risk assessment and offers measures to eliminate or control the risk.

A comprehensive principal's guide to implementation is included with Volume 1 and is supported by a workplace-training module, including notes for facilitators and participants.

Volume 2 was provided to schools with secondary students and contains specific support for Creative Arts, Science and TAS.

Section 3.3 in Volume 2 has 57 pages dedicated to technology-specific issues. It promotes best practice in the use of chemicals for technology teaching and learning and provides specific advice about organising and handling such substances as adhesives, fabric dyes, solvents, timber products, and agricultural fertilisers. Concise, practical information is provided to help teachers plan safe learning activities and assist with maintaining a safe working environment.

The appropriate disposal of waste chemicals is a critical phase of managing chemicals in schools. Procedures are presented to assist with identifying appropriate disposal mechanisms.

A list of chemicals banned in government schools is included for reference. Advice is provided on the related dangers and methods of safe storage while awaiting collection.

Volume 2 also has information on more than 900 chemicals commonly found in schools and states the Department's conditions of use for these chemicals. Safe working practices are addressed and deal with such issues as maximum quantities, emergency equipment and procedures, basic handling procedures and hygiene and personal protective equipment. A site-specific risk assessment form is included to assist schools when deciding on the use of a specific substance that has not been assessed by the Department.

The CD-ROM in the resource provides access to over 20,000 material safety data sheets (MSDS), assists with establishing a chemical register and produces labels for small chemical containers.

Your principal is responsible for managing the implementation of *Chemical Safety in Schools*. The principal can take the role of co-ordinator or can appoint a co-ordinator or co-ordinating committee. The principal is required to:

- complete training of all staff (three forty-minute modules) by the end of Term 2, 2001
- complete the *Chemical Disposal Survey* (distributed by the Administrative Services Directorate) by the end of Term 1, 2001
- return the *Dangerous Goods Safety Checklist* and *Dangerous Goods Safety Declaration* to the district office by the end of Term 1, 2001
- complete the implementation of the CSIS package by the end of 2001, with full implementation and monitoring occurring from 2002.