

APPROVED CODE OF PRACTICE FOR
THE MANAGEMENT OF
**SUBSTANCES
HAZARDOUS TO HEALTH**
IN THE PLACE OF WORK



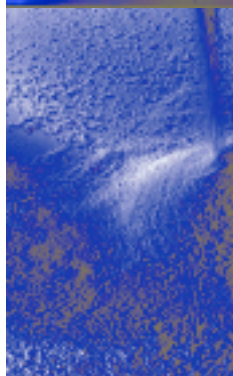
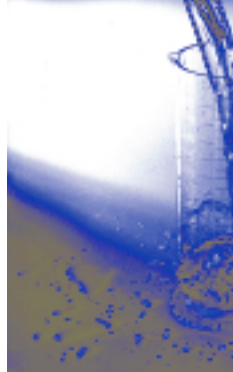
DEPARTMENT OF
LABOUR
TE TARI MAHI

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FOREWORD

I have approved this statement of preferred work practices, which is an Approved Code of Practice for the Management of Substances Hazardous to Health under section 20 of the Health and Safety in Employment Act 1992. When this code is approved, a court may have regard to it in relation to compliance with the relevant sections of the Act. This means that if an employer in an industry, or using a process to which an approved code applies can show compliance with that code in all matters it covers, a court may consider this to be compliance with the provisions of the Act to which the code relates.




Hon. Max Bradford
Minister of Labour
July 1997



NOTICE OF ISSUE

I have issued this Approved Code of Practice for the Management of Substances Hazardous to Health, being a statement of preferred work practices or arrangements, for the purpose of ensuring the health and safety of persons to which this code applies and persons who may be affected by the activities covered by this code.



J M Chetwin
Secretary of Labour
July 1997



ABOUT THIS CODE

This approved code of practice is in four parts.

Part 1 introduces the code, explains its status, and defines key terms in a glossary.

Part 2 contains the most information. It describes an approach for employers to meet their duty to manage substances hazardous to health. The approach is set out under five main headings:

- Information
- Assessment
- Prevention and control
- Monitoring
- Training and supervision

Part 3 describes the responsibilities of others for the management of substances hazardous to health.

Part 4 contains information in support of the code.

ADDITIONAL PUBLICATIONS

This code is supported by the following documents:

A practical guide and workbook for completing a MOSHH assessment;

Guidelines for Workplace Health Surveillance;

Guidelines for the Preparation of Material Safety Data Sheets in New Zealand;

A brief guide for employers; and

A brief guide for employees.

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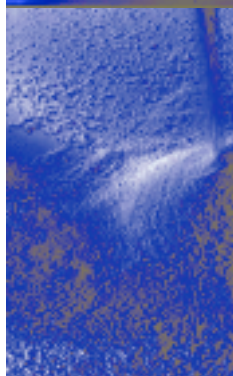
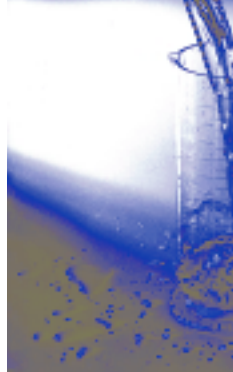
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1.1 APPLICATION OF THE CODE

This Approved Code of Practice for the Management of Substances Hazardous to Health provides a practical guide on how to comply with the relevant sections of the Health and Safety in Employment Act 1992 and Regulations 1995, in order to minimise the risk of occupational illness or injury due to exposure to substances hazardous to health. The code applies to all workplaces in which substances hazardous to health are used or produced and to all persons with potential exposure to substances hazardous to health in those workplaces.

It is not intended that this code be applied to substances which, in the foreseeable course of work, are not a source of potentially hazardous exposure to employees and others.

Approved codes of practice are provided for in the Act itself. They are statements of preferred work practice or arrangements, and may include procedures which could be taken into account when deciding on the practicable steps to be taken.

Compliance with codes of practice is not mandatory. However, it may be used as evidence of good practice in Court.

This code provides general guidance on:

- Carrying out a workplace assessment;
- Selecting options for preventing or controlling exposure to substances hazardous to health;
- Material safety data sheets and labels for the management of substances hazardous to health;
- Means of monitoring exposure to substances hazardous to health and performing health surveillance; and
- Other related matters.

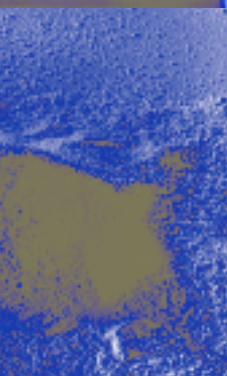
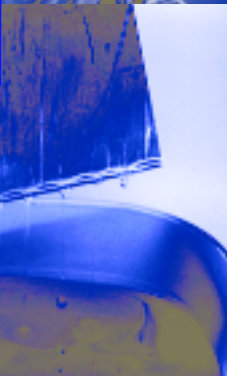
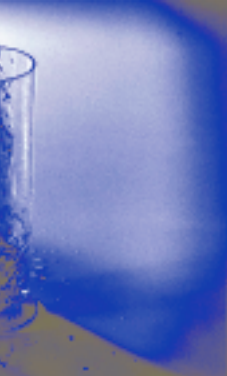
This code applies to:

- Suppliers of substances hazardous to health for use at a place of work;
- An employer or self-employed person at a place of work where a substance hazardous to health is used; and
- An employee who may be exposed to a substance hazardous to health at a place of work.

This code does not apply to the following situations or materials:

- Asbestos and materials containing asbestos as covered by the Asbestos Regulations 1983 (as amended);
- The carriage of a hazardous substance covered by the Transport Act 1962 (and regulations and codes of practice pursuant to this act), or





the International Maritime Dangerous Goods Code, or International Air Transport Association (IATA) recommendations for air transport.

- The discharge or disposal of substances hazardous to health as covered by the Resource Management Act 1991, except where such discharge or disposal may involve employees or others being exposed to the substances hazardous to health;
- Any action taken pursuant to section 28A of the Fire Service Act 1975;
- The use and handling of radioactive substances as covered by the Radiation Protection Act 1965;
- Hazards posed by non-ionising radiation;
- The storage, transport and sale of motor fuel, aviation fuel, compressed natural gas, or liquefied petroleum gas; or
- Micro-organisms.

Except where the product is related to the work activity, the following are not covered by the code:

- Food or beverages;
- Cosmetics;
- Any product intended for use as a medicine for human use, or to any animal remedy intended for internal use; and
- Tobacco or products made of tobacco.

For example, food eaten while at work would be exempt, but hazardous substances associated with the production of food in a place of work would be covered by the code.

1.2 DEFINITIONS

Substance hazardous to health Any substance, or product containing a substance, to be used or produced in a workplace that is known or suspected to cause harm to health. This includes:

- Those substances that are classified as hazardous under the Hazardous Substances and New Organisms Act 1996 (HSNO Act), excluding micro-organisms;
- Scheduled substances as defined by the Toxic Substances Regulations 1983; and
- Those substances that are listed in the Workplace Exposure Standards publication currently applicable in New Zealand.

Act means the Health and Safety in Employment Act 1992.

Departmental medical practitioner A medical practitioner as appointed under section 34 of the Health and Safety in Employment Act 1992.

Employer As defined in the Health and Safety in Employment Act, an employer means a person who or that employs any other person to do any work for hire or reward; and in relation to any employee, means an employer of the employee.

Exposure This describes conditions that are likely to result in a person absorbing a substance hazardous to health by ingestion, inhalation, or through the skin or mucous membranes.

OSH Occupational Safety and Health Service of the Department of Labour.

Place of work means a place (whether or not within or forming part of a building or structure) where any person is to work, is working, for the time being works, or customarily works, for gain or reward; and, in relation to an employee, includes a place, or part of a place, under the control of the employer (not being domestic accommodation provided for the employee),—

(a) Where the employee comes or may come to eat, rest or get first aid or pay; or

(b) Where the employee comes or may come as part of the employee's duties to report in or out, get instructions, or deliver goods or vehicles; or

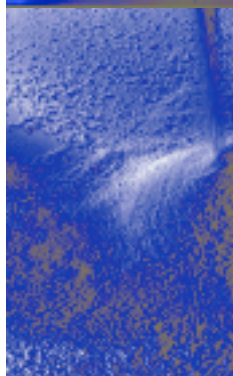
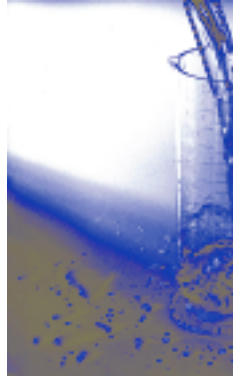
(c) Through which the employee may or must pass to reach a place of work.

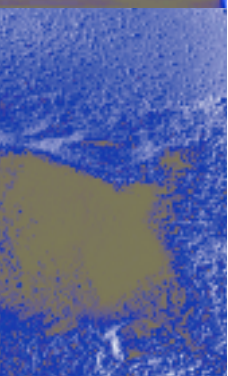
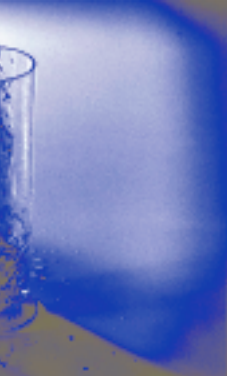
Regulations means the Health and Safety Employment Regulations 1995.

Shall is used in places where there is a technical requirement to achieve the desired result. It is used to alert the reader to the need for that element to be included.

Should is used as a way of indicating a preference. It does not indicate a mandatory requirement, as other alternatives could achieve an equivalent result.

Supplier The last person in the chain who supplies substances hazardous to health to the place of work. It may be the importer, manufacturer, wholesaler or distributor, but excludes the person who transports the substances hazardous to health.





Workplace has the same meaning as a “place of work” above. (As set out in section 2(1) of the Health and Safety in Employment Act 1992.)

Workplace Exposure Standard (WES) Means any exposure standard listed in the Workplace Exposure Standards publication currently applicable in New Zealand. Workplace Exposure Standards are defined for both short-term effects (WES ceiling and WES short-term exposure limits) and long-term effects (WES time-weighted average limits).

2.1 INFORMATION TO BE PROVIDED IN THE PLACE OF WORK

This section provides guidance on achieving compliance with section 12 of the HSE Act with respect to substances hazardous to health.

The employer has a responsibility to ensure that employees are provided with information on substances hazardous to health in a form they are likely to understand.

Material Safety Data Sheets and other data provided by the supplier may form the basis of this information, but in many situations the information would have to be configured to meet the requirements of the particular place of work. It is noted that as well as making the information available, the employer shall ensure that training is provided on how to access and interpret the data (see section 2.5 below).

The use of Product Safety Cards, containing in a concise form the information for the safe handling of the product, is encouraged. However, their use does not diminish the employer's responsibility to obtain and provide complete information such as that provided on an MSDS. Examples of an MSDS and a product safety card are provided in section 4.3.

MATERIAL SAFETY DATA SHEETS

MSDS provide the information needed to allow the safe handling of particular substances hazardous to health in the workplace. Employers should ensure that all employees have ready access to MSDS and have a clear understanding of safe handling requirements.

Obtaining Material Safety Data Sheets

Employers should obtain an MSDS from the supplier of products containing substances hazardous to health. This MSDS should be in the format given in the publication *Guidelines for the Preparation of Material Safety Data Sheets in New Zealand* or contain equivalent information.

Where a new substance is to be used in a place of work, the MSDS should be obtained in advance to allow an assessment of the controls required.

Where an MSDS or equivalent cannot be obtained, the employer should contact OSH for advice on how to access the information.


Where an employer manufactures a substance hazardous to health

Where an employer manufactures a substance hazardous to health the employer is responsible for producing information for the safe use of that substance. Whether or not a complete MSDS is required for an intermediate product should be judged on the likelihood of people being exposed to that product.

Access to Material Safety Data Sheets

At each place of work, employees should have ready access to the current MSDS for substances used. Hard copies of MSDS need not be held if the information can be printed out from a computer. A computer database provides a practical option for an organisation using a large number of products containing substances hazardous to health, but provision would have to be made for access to relevant information in an emergency that may occur out of normal hours.





On request copies of MSDS should be made available to individual workers who are required to handle, use, or otherwise come into contact with, a substance hazardous to health.

Alteration of Material Safety Data Sheets

MSDS obtained from the supplier should not be altered except where the MSDS is provided from overseas and/or does not contain the information prescribed in the publication *Guidelines for the Preparation of Material Safety Data Sheets in New Zealand*. Any additional information should be appended to the MSDS and clearly marked to indicate it is not part of the supplier's MSDS.

LABELLING

All containers of substances hazardous to health used or handled in a place of work should be labelled to allow the substances to be used safely. Containers into which a substance hazardous to health has been decanted should also be clearly labelled to identify the contents.

Incompatible substances

The selection of the container and the information on the label should be designed to minimise the risk of inadvertently mixing incompatible substances.

Substances hazardous to health in enclosed systems

Where a substance hazardous to health is contained in an enclosed system, such as piping or a reactor vessel, it must be identified to an employee or any other person who may be exposed to the contents. Methods for identifying the contents of piping, conduits and ducts by the use of colours, letters and symbols are set out in AS 1345:1995 *Identification of the contents of pipes, conduits and ducts*.

Unlabelled containers

If an employer or employee finds a container that does not have a label or is improperly labelled, action should be taken to correctly label the container. If the contents are unknown, the container should be marked "**Caution do not use: unknown substance**" until the contents can be identified or suitably disposed of.

MSDS AND LABEL REQUIREMENTS IN LABORATORIES

While MSDS should be provided by the suppliers of laboratory reagents, MSDS are not required for subsequent preparations, laboratory samples or reaction intermediates. A laboratory may find it more convenient to hold a single MSDS for a particular substance, rather than a collection of MSDS from various suppliers.

Any decanted chemical to be stored should be labelled with the identity of the contents. In other circumstances where it may be impractical to label individual containers, other procedures may be employed to ensure safe use of the substances. References such as AS 2243 (set) *Safety in laboratories* should be consulted for more specific information on preferred laboratory practices.

OTHER RELEVANT INFORMATION

Employers should make all other relevant information regarding substances hazardous to health available to employees. This may include information on the substances hazardous to health over and above that contained in the MSDS, and information on the safe operation of equipment used with a substance hazardous to health.

2.2 ASSESSMENT

This section provides guidance on achieving compliance with section 7 of the HSE Act with respect to substances hazardous to health.

PURPOSE OF AN ASSESSMENT

The purpose of an assessment is to gain adequate information on the use of substances hazardous to health in a place of work. This allows decisions to be made on the requirements for control measures, training and monitoring.

The emphasis in carrying out an assessment is on determining the extent of the risk to employees and others that arises from the use or presence of the substances hazardous to health in a particular work process. The assessment therefore needs to address the way the substances are encountered in the place of work, and should not simply rely on noting their hazardous nature.

The employer has the responsibility to ensure that a suitable and sufficient assessment is made of any work involving potential exposure to any substances hazardous to health. It is noted that an assessment is only required where there is a potential for exposure — but in deciding this the possibility of inadvertent exposures that may occur as the result of plant failure or accidental spills in a storage facility cannot be ignored.

The assessment may form part of an exercise to fulfil the Act's general requirement to manage hazards.

THE ASSESSMENT PROCESS

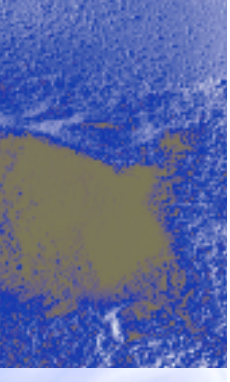
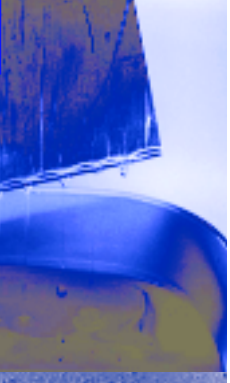
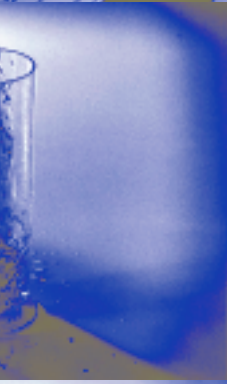
The assessment process involves:

1. Identifying substances hazardous to health in the workplace;
2. Reviewing the information about the hazards they pose to health;
3. Determining the degree of exposure;
4. Assessing the risk to health; and
5. Reviewing the assessment.

While each of these steps should be undertaken in any assessment, the amount of work involved will vary from case to case.

In the more straightforward situations, all that may be required is a review of the information on the MSDS and a note of the exposure likely to be experienced by the employees. In other situations it may be necessary to obtain further information on the hazardous nature of the substances involved





and to more closely evaluate the work activities and the extent and duration of exposure. This may require a measurement of the actual exposures experienced by employees, or sampling to determine the extent of emissions of substances from processes.

If an assessment does not show potential harm

If the assessment indicates that — on the basis of current knowledge of the nature of the substances and the way they are used — employees are unlikely to suffer harm as a result of exposure, then the assessment is complete, and no further action is required, other than noting the assessment and the decision taken. Notwithstanding this outcome, exposure to substances hazardous to health shall be kept to as low a level as practicable. The assessment should be reviewed if new information on the hazards of the substance becomes available or the process changes (see below).

If the outcome of an assessment is uncertain

If the assessment indicates that harm to health may result from exposure to substances hazardous to health, but there is some uncertainty about the degree and extent of the exposure, then further work, that may include monitoring, is required. Workplace exposure monitoring and biological exposure monitoring are discussed in section 2.4 of the code.

If an assessment indicates possible harm

If the assessment indicates that harm to health may result from exposure to substances hazardous to health, then the adequacy of steps currently in place to prevent or minimise exposure shall be examined. Section 2.3 of this code includes discussion on prevention and control measures.

An approach to assessment is described below.

The process is expanded on in the workbook which supports this code.

WHO SHOULD CARRY OUT THE ASSESSMENT?

The overall responsibility for the assessment lies with the employer, and in some instances the employer, or nominated representatives from the organisation, will be able to carry out the assessment. Where special expertise is required, assistance may be sought from a relevant professional.

The decision as to which course to follow will depend on the complexity of the assessment task and the availability of people with the relevant skills within the organisation.

Where the assessment task is relatively complex a team approach is recommended, as it is unlikely that any one person will have the range of skills required. Regardless of complexity, where additional expertise is employed, a representative from the organisation should be involved throughout the assessment to ensure that it is carried out with a thorough understanding of the process. This will also ensure that the employer retains ownership of the assessment.

Competency to perform assessments

A person carrying out an assessment is considered competent if they have, through a combination of training, education and experience, acquired appropriate and adequate knowledge and skills to:

- Understand the requirements set out in this code of practice;

- Gather and interpret the relevant information systematically; and
- Specify what further steps, if any, need to be taken to comply with this code.

HOW TO APPROACH AN ASSESSMENT

The following stepwise approach is recommended when carrying out a workplace assessment on the use of substances hazardous to health.

Step 1: Decide who will carry out the assessment

The overall responsibility for the assessment lies with the employer. The decision on who should carry out the assessment depends on the complexity of the task and the availability of people with the relevant skills within the organisation.

Step 2: Define the area to be assessed

In larger places of work, where several distinct processes take place, the work that involves substances hazardous to health may be better divided into areas, activities or processes to simplify the assessment. Floor plans should be utilised to ensure that all sections of the place of work are covered.

Step 3: Identify substances hazardous to health

All substances hazardous to health whether solid, liquid, dust, gas, vapour, mist or fume that are, or will be, used or produced in the work areas should be identified.

Substances hazardous to health should be identified by:

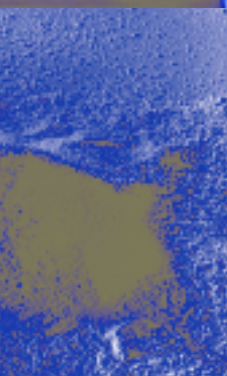
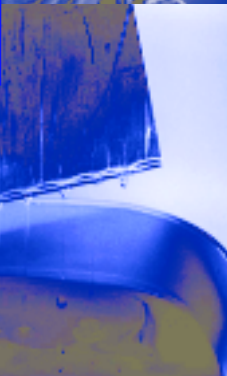
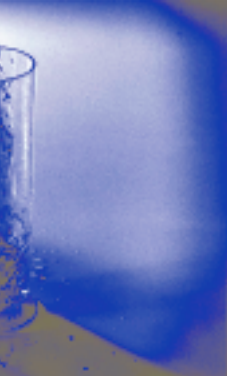
- Referring to stock lists, inventories, registers, MSDS and labels;
- Checking all locations where substances hazardous to health are used or stored;
- Considering what substances hazardous to health might be produced during any work process as intermediates, by-products, finished products or given off as wastes, residues or fugitive emissions (a substance which briefly escapes from a process);
- Considering all substances that are used in or arise from ancillary work such as maintenance and repair, cleaning, research or testing; and
- Considering all substances that can arise from work on a building (for example, disturbance of insulation materials), or from work on machinery (for example, emission of fumes from welding or thermal cutting of metal parts).

A list should be compiled of all those substances hazardous to health used or produced in a place of work.

Step 4: Obtain information on hazards to health

Obtain information about the hazard. For many assessments, container labels, MSDS, and details from the manufacturer will provide this information.





However, for substances produced in a place of work for which a MSDS is not available, it will be necessary to locate equivalent information from other sources. Also, where the nature of the hazard is very serious, or chemical processes are complex, more detailed information may be required. Sources of this information include:

- The National Poisons and Hazardous Chemicals Information Centre, tertiary and scientific institutions;
- Codes of practice and other guidance on specific hazardous substances and processes such as those published by Occupational Safety and Health, Standards New Zealand, professional institutions, and employee or employer organisations;
- Technical references, e.g. textbooks, scientific/technical papers, computerised databases etc; and
- Experience and information from previous use of similar substances or processes.

Step 5: Consider who could be exposed and how

List those employees with potential for exposure to substances hazardous to health, taking into account the potential route of absorption. It is recommended that employees be grouped by activities rather than by the substances they are exposed to.

In assessing existing processes, it is important to talk to employees in each area regarding practical information about work practices and procedures. For example, employees could describe what happens during a breakdown, maintenance, changes in personnel or volume of production, weather conditions or other changes that can affect the work with a substance hazardous to health.

If a job, process or other work unit is being planned but not yet in operation, evaluation of the relevant work process, plan or design is needed.

The potential for exposure should be made considering:

- Breathing in the substances (inhalation);
- Ingestion, usually as a result of eating or smoking with contaminated hands;
- Absorption through the skin, either directly or from contact with contaminated surfaces or clothing; or
- Injection into the body by high pressure equipment or contaminated sharp objects.

Step 6: Estimate the degree of exposure

The degree of exposure of persons to substances hazardous to health should be considered by taking into account:

- The concentration of the substances during exposure;
- The duration of exposure; and
- The frequency of exposure.

An assessment of the level, duration and frequency of exposure requires

careful consideration of the actual work process. For example, the level of exposure to a volatile substance will vary with the surface area exposed. Decanting the substance may result in minimal exposure, but if it is used as a cleaning agent, the exposure may well be significant.

The physical form of a substance may influence the effective level of exposure. For example, inhalation exposure will be influenced by the size of particles in an airborne powder or dust.

Specific working conditions must be considered. The level of exposure could change considerably if the ventilation around the job is restricted, for example, work in confined spaces.

Consideration should be given to the persistence of a substance in the work environment. Contamination of work surfaces or clothing is likely to influence the overall exposure.

All measures in place to control exposure to substances hazardous to health should be noted along with comment on their effectiveness. This should cover:

- Engineering controls such as isolation, local exhaust ventilation and general ventilation;
- Correct storage;
- Good housekeeping;
- Safe work practices;
- Emergency procedures and equipment such as eye wash and safety shower; and
- The use and maintenance of appropriate personal protective equipment.

Consider all persons with the potential to be exposed

The degree of exposure of all persons with the potential to be exposed to the substance in the course of work should be considered. This may include maintenance workers, contractors, cleaners and other persons in the vicinity, as well as those directly involved in working with the substances hazardous to health.

The need for measuring exposures

After considering the information gained to this point, decide whether the measurement of actual exposure levels experienced by the employees is required. Generally, exposure measurement would only be required in situations where the degree of exposure is uncertain, and where there is a valid test method.

Step 7: Make your conclusions and recommendations about the risk

To evaluate the overall risk and to determine what actions are required, it is necessary to draw together the information relating to each substance hazardous to health itself and how it is used in the place of work. That is, the following should be considered:

- The quantity of substance(s) used;
- The properties of the substance(s) involved;
- The nature and severity of potential health effects;





- The possibility of mixed exposure having an increased health response;
- The presence of individuals within the exposed group that may be at greater risk because of a pre-existing health condition, sex, age, etc;
- The degree of exposure; and
- The existence and performance of control measures.

To ensure that the appropriate action is taken to manage the use of the substances hazardous to health, it is important that a conclusion be reached at this stage. It is not possible to be specific about what action should be taken in individual situations. When considering the adequacy of control measures it should be borne in mind that exposure to any substance should be prevented or kept as low as practicable and that there is a preferred hierarchy of control (see section 2.3).

Step 8: Keep a record of the assessment

Where the assessment has determined that there is no risk to health, the report should simply record this with sufficient information to justify the decision. This should include the date the assessment was completed, the MSDS or equivalent information that was reviewed and, if applicable, a notation that the controls in place were adequate.

Where the assessment determines that there is a risk to health the report should be kept as a permanent record. It should include:

- The health and safety risk to employees for each operation involving a substance hazardous to health;
- What monitoring is necessary, including that needed to ensure that the control measures are functioning properly;
- The control measures required and the basis for the recommendations;
- Whether health surveillance is necessary;
- The training required for employees;
- Relevant information from MSDSs on the use of the substances hazardous to health;
- The names and positions of those making the assessment; and
- The circumstances under which a review may be needed.

Assessment reports should form part of the information recorded by employers in relation to their duties under the Act for hazard management.

In all cases the assessments should be signed off by the person(s) responsible for the validity of the assessment.

GENERIC ASSESSMENTS

Often a particular substance hazardous to health is used in the same way or similar circumstances in a number of different places of work, or work areas within the same place of work. In such situations, the nature of the hazard and the degree of risk may be comparable and a single assessment of one

representative workplace can be applied to others.

Such generic assessments for a substance hazardous to health may be undertaken where a single employer controls many similar places of work or by a trade association on behalf of a number of different employers with essentially identical places of work, for example, service stations. In each case, the individual employer is responsible for ensuring that the generic assessment is valid for that place of work.

REVISION OF ASSESSMENTS

The assessment for a particular process should be revised at least every two years, or if:

- The process, plant or substance related to exposure to the substances hazardous to health is modified;
- New information on the hazards of the substance becomes available, for example if the employer is informed of a revised Workplace Exposure Standard for a substance;
- Monitoring indicates inadequate exposure control;
- The installation of new or improved control measures becomes practicable (taking into account the cost and availability of the measures); or
- There is reason to believe that the last assessment is no longer valid.

A completely new assessment may not be required, particularly if the operation has not changed and there is no reason to expect that the employee's exposure to the substances hazardous to health has changed.

ACCESS TO ASSESSMENT REPORTS

Assessment reports should be readily accessible to all employees with potential for exposure to substances hazardous to health, and health and safety inspectors appointed under section 29(1) of the Act. Any personal identifiers should be removed from reports before they are made freely available.

2.3 PREVENTION AND CONTROL

This section provides guidance on achieving compliance with sections 6 and 8-10 of the HSE Act with respect to substances hazardous to health.

SELECTION OF APPROPRIATE MEASURES

All practicable steps should be taken to prevent exposure to substances hazardous to health and, where this has not been achieved, exposure should be controlled so as to minimise risks to health. As a general principle, the prevention or adequate control of exposure of employees to substances hazardous to health should be secured by measures other than the use of personal protective equipment.

This code provides a hierarchy of measures to prevent or control exposure.





However, measures should not be considered to be mutually exclusive, and in some instances an integrated approach is necessary to minimise exposures. When considering methods to control exposure, all the possible routes of entry of the substances into the body should be considered.

ROLE OF THE WORKPLACE EXPOSURE STANDARDS

In all cases employers should ensure that employee exposure to substances hazardous to health — as measured by the appropriate procedure — is not greater than the relevant exposure standard listed in the Workplace Exposure Standards publication currently applicable in New Zealand.

Exposure standards do not represent a “no effect” level at which workers can be guaranteed protection, and compliance with the relevant standard does not preclude further efforts to reduce exposure.

The absence of a specific exposure standard for a substance should not be considered an indication that exposure need not be controlled.

In some instances exposure standards will be available from other agencies, or information about the toxicity of the substance will be listed in the MSDS.

HIERARCHY OF PREVENTION AND CONTROL MEASURES

Where a significant hazard has been identified, the HSE Act requires that the hazard be managed by considering the following hierarchy of action:

- Elimination; then
- Isolation; and, finally
- Minimisation.

Application of the hierarchy of measures involves firstly assessing whether the use of a substance hazardous to health can be completely eliminated. Where this is not practicable, substitution is to be considered.

If elimination cannot be achieved, all practicable steps shall then be taken to isolate the substances hazardous to health. If this cannot be effectively achieved, consideration shall be given to each of the control measures — engineering controls, administrative controls, or the use of personal protection equipment.

The hierarchy of prevention or control measures is further explained below:

Elimination

Where a work activity involves the use of a substance hazardous to health that is not essential to the work activity, the substance should be eliminated.

Examples of elimination include:

- Using a physical process rather than a chemical process to clean an object, for example, use of ultrasound and a water-based solution to replace an organic solvent cleaning process;
- Using clips, clamps or bolts instead of adhesive; or
- Purchasing supplies of a material in a ready cut and sized form, rather than carrying out a dust-producing cutting process on site.

To achieve elimination the overall hazard must be controlled to the point

where there is negligible risk to health. In some instances substitution will achieve this objective but often it will only result in a reduced risk, and isolation and minimisation must still be considered.

Substitution includes replacing a hazardous substance with one that is less hazardous. Alternatively, it may involve using the same substance in a less hazardous form, or the same substance in a less hazardous process. Examples of substitution include:

- Using a water-based paint with a lower solvent content, in place of an organic solvent-based paint;
- Using a hazardous substance in paste or pellet form rather than a dusty powder; or
- Brush application of paint rather than spray application.

Isolation

Isolation involves separation of the process from employees by distance or the use of barriers to *prevent* exposure. Engineering control that totally encloses a process and effectively separates the substances hazardous to health from employees is an example of isolation.

Minimisation

Minimisation of the risk of substances hazardous to health may be achieved by a variety of practices, including the following:

Engineering controls. These involve the use of plant or processes which minimise the generation of a substance hazardous to health, suppress or contain a substance hazardous to health, or which limit the area of contamination in the event of spills or leaks. Types of engineering controls include partial enclosure with local exhaust ventilation, local exhaust ventilation, general ventilation and automation of processes. Some specific examples of engineering controls are:

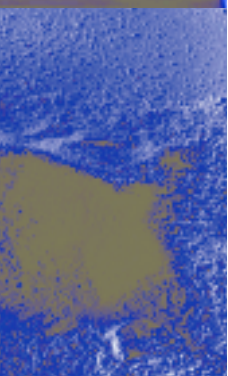
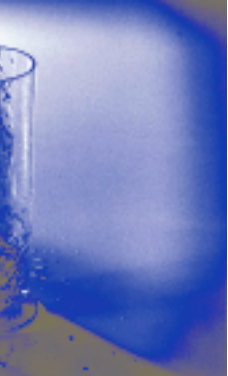
- Ventilated booths for spraying paint or fibreglassing;
- Extraction systems incorporating a capture hood and local exhaust ventilation attached to grinding machines;
- Robotic welding; or
- Automation of the removal of objects from degreasing baths.

The preferred forms of engineering control are those that effectively contain or prevent the contaminant reaching the breathing zone of workers. For example, local exhaust ventilation that removes a contaminant at the source is preferred over general ventilation that dilutes the concentration of the contaminant.

Administrative controls are work practices which require people to work in safer ways and relate to the way in which work is performed. Examples of administrative control include:

- Excluding persons from a work area who are not essential to the process;
- Shift or work rotation to reduce the period of exposure for employees;
- Regular cleaning of contamination from walls and surfaces;





- Providing means for safe storage and disposal of a substance hazardous to health;
- Prohibiting eating, drinking and smoking in contaminated areas;
- Vacuuming in areas where dust-producing processes take place;
- Keeping lids on containers when not in use; and
- Providing and using facilities for washing and showering.

Personal protective equipment (PPE). The use of personal protective equipment should be limited to situations where other control measures are not practicable or where it is used in conjunction with other measures to increase protection. Situations where the use of suitable personal protective equipment may be necessary include:

- Where all practicable steps have been taken, but adequate control has not been achieved by other means. Suitable personal protective equipment may be necessary to secure adequate control;
- Where personal protective equipment is necessary to safeguard health until such time as adequate control is achieved by other means, for example, where urgent action is required because of plant failure; or
- During routine maintenance operations where the infrequency and small number of people involved may make other control measures impracticable.

In determining the relative costs of personal protective equipment and engineering control, the ongoing costs associated with training and ensuring that personal protective equipment is maintained should be considered.

Where personal protective equipment is used, employers shall ensure that it is:

- Properly selected for the individual and task;
- Readily available;
- Clean and functional;
- Checked before use;
- Correctly used when required; and
- Appropriately maintained.

Employees' ability to wear the protective equipment should also be assessed. For example, medical factors may be relevant for respirator usage.

Before personal protective equipment is provided the employer shall fully explain to employees the need for its use. Training on use, maintenance and fitting should be repeated at regular intervals.

Regulations 68 and 69 of the Health and Safety in Employment Regulations 1995 require designers, manufacturers and suppliers of personal protective equipment to take all practicable steps to ensure that it will give adequate protection from the harm against which it is intended to protect. The employer should ensure that personal protective equipment is selected and used in accordance with relevant New Zealand, Australian or equivalent overseas standards, and in particular:

- (a) Respiratory protection design should comply with AS/NZS 1716:1994 *Respiratory Protective Devices*. Respirators should be used in

accordance with AS/NZS 1715:1994 *Selection, use and maintenance of respiratory protective devices*.

- (b) Eye protection should comply with AS/NZS 1337:1992 *Eye protectors for industrial applications*.
- (c) Clothing for protection against chemicals should comply with AS 3765:1990 *Clothing for protection against hazardous chemicals*.

MAINTENANCE OF PREVENTION AND CONTROL MEASURES

The employer shall ensure that all measures perform as originally intended and continue to prevent or adequately control exposure of employees to substances hazardous to health.

Where engineering control measures are used to control exposure, they should be thoroughly examined and tested at specified intervals to ensure effective performance.

Preventive servicing procedures should be established specifying which control measures require servicing, the servicing needed, the frequency of servicing, who is responsible, how any defects will be corrected, performance testing and evaluation standards, and records of servicing.

EMERGENCY PROCEDURES

This subsection provides guidance on achieving compliance with section 6(e) and 14(b) of the HSE Act with respect to substances hazardous to health.

Employers are required to involve employees in the development of emergency procedures. Established emergency procedures, procedures for safe containment of substances, and sufficient suitable personal protective equipment are to be used where appropriate, to enable the source of any release to be safely identified and repairs made.

All persons not directly concerned with the emergency should be excluded from the contaminated area, taking into consideration the wind direction and the slope of the surrounding area.

Discussions should be held with emergency services where there is a possibility that release of the substances hazardous to health will provide an immediate danger to health. This will allow the emergency services to become acquainted with the type and magnitude of the hazard before having to respond to an emergency.

Once any immediate danger to health has passed, steps should be taken to prevent environmental contamination. Contact should be made with relevant local authorities to enable a response to be made to avert environmental contamination.

See also section 2.5, Training and supervision.



2.4 MONITORING

This section provides guidance on achieving compliance with sections 10(2)(c), (d) and (e) and section 11 of the HSE Act with respect to substances hazardous to health.

The employer is responsible for ensuring that an assessment of the risks to health be carried out for any work involving potential exposure to any substances hazardous to health. As part of the assessment process, it may be necessary to monitor the employee's exposure to the hazardous substance, and with their informed consent, to monitor the employee's health in relation to exposure to the hazardous substance.

In the context of this code, monitoring includes the use of valid and suitable techniques to give a quantitative estimate of the exposure of employees to substances hazardous to health and their health in relation to that exposure. For airborne substances, workplace exposure monitoring involves the periodic and/or continuous sampling of workplace atmospheres, to derive a quantitative measure of exposure to substances hazardous to health. Biological monitoring, performed as part of a health surveillance programme, may also provide information on exposure to substances hazardous to health.

The role of biological monitoring

The assessment of the airborne concentration of a particular contaminant, and the subsequent comparison with the appropriate exposure standards is usually the primary technique for monitoring the work environment.

However, in some situations, this approach may be complemented by the use of biological monitoring techniques which measure the levels of the substance or its metabolite(s) in body fluids, such as sweat, urine, or blood, or in exhaled breath.

For a limited number of substances, the application of biological monitoring can be particularly useful in suggesting the degree of skin absorption and, in some cases, can identify unknown or unexpected exposures which cannot be predicted from atmospheric monitoring alone. However, biological monitoring does have limitations, particularly in regard to the collection and preservation of samples and the interpretation of results. There is limited knowledge of suitable and definitive biological tests for many substances.

HEALTH SURVEILLANCE

Health surveillance, which includes biological monitoring, is part of an integrated range of measures directed at controlling exposure to substances hazardous to health to ensure the health and safety of people at work. The options and criteria for action should be established before undertaking health surveillance — as should the method of recording, analysis and interpretation of the results of health surveillance.

Employees requiring health surveillance

Health surveillance is required for employees who have been identified in the assessment as having:

- A risk to health from one or more of the hazardous substances or processes listed in section 4.2 of this code;

- Exposure to a substance hazardous to health for which:
 - An identifiable disease or health effect may be related to the exposure;
 - There is reasonable likelihood that the disease or health effect may occur under the particular conditions of work; and
 - There are valid techniques for detecting indications of the disease or the effect.

Health surveillance may also be required where a departmental medical practitioner requires medical examination of employees.

What to survey

The following factors need to be considered in health surveillance:

- The nature and degree of exposure;
- The likelihood that a disease or adverse health effect may occur;
- An assessment of available epidemiological information on human exposure and toxicological data;
- The sensitivity, specificity and reliability of the detection and measurement of any changes;
- The remedial action which is available to reverse or arrest any changes; and
- The resources and levels of competence required to perform the necessary detection and/or measurement procedures.

Types of health surveillance

The type of health surveillance needed should be carefully considered. The types of procedure which may be followed include:


- Biological exposure monitoring, for example, measurement and assessment of substances hazardous to health or their metabolites in blood, urine, or expired air (biological monitoring may be complementary to atmospheric monitoring);
- Biological effect monitoring, the measurement of early biological effects in exposed workers;
- Medical tests;
- Medical examinations;
- A review of present and past medical and work history, including occupational exposures;
- Self-reporting of symptoms; and
- Examination by a suitably qualified person (e.g. an occupational health nurse).

These procedures are not mutually exclusive and the results from one procedure may indicate the need for another. Non-invasive methods of testing, for example, analysis of expired air are generally preferable to invasive methods, for example, blood analysis, where equally meaningful results can be obtained.

Confidentiality

Those providing health surveillance should maintain the confidentiality of individual medical records of all employees past and present. Employers shall





ensure that all information that identifies or discloses information about any individual employee is removed from any monitoring results given to other employees.

Consent

The employer shall ensure that informed consent for health surveillance is sought from an employee before health surveillance commences. Consent to monitoring should be separate from that given for any other medical treatment.

WORKPLACE EXPOSURE MONITORING

Workplace exposure monitoring may be carried out where it is necessary:

- To obtain a quantitative estimate of a person's exposure to substances hazardous to health; or
- To determine the efficiency and effectiveness of measures introduced to control exposure to substances hazardous to health.

Workplace exposure monitoring may be either:

Personal monitoring — achieved by sampling the air in the breathing zone of the worker, usually with equipment worn by the worker; or

Static monitoring — using equipment that samples the air at a fixed point in the workplaces.

It should be noted that Workplace Exposure Standards always relate to personal air sampling results.

Procedures

Procedures for workplace exposure monitoring should address:

- When and how the monitoring is to be done;
- The sampling procedures and analytical methods to be used;
- The sites and frequency of sampling; and
- How the results are to be interpreted.

A competent person to undertake monitoring

Workplace exposure monitoring should only be carried out by a competent person who has sufficient knowledge, skills, and experience in the appropriate techniques and procedures, including interpretation of the results.

Results of workplace exposure monitoring

Records should be kept of the results of any monitoring undertaken. The records should contain sufficient detail to determine:

- The substance(s) hazardous to health concerned, what the results were and when the monitoring was undertaken;
- What monitoring procedures were adopted, including the duration of sampling;
- The locations where samples were taken, the operations in progress at the time and, in the case of personal samples, the names of those individuals concerned;
- Whether the results reflected normal operating conditions;
- How the results were interpreted; and

- The effectiveness of control measures in place.

The records of workplace exposure monitoring may be kept in any form, but information should be readily retrievable and in an easily understood form. Records should also be kept in such a way that the results can be compared with any health surveillance monitoring undertaken.

Storage of results

The results of monitoring should be kept for at least 30 years from the date of the last entry made in the records. Where the *employer* is no longer associated with the process that required the monitoring to be carried out, the records should be made available to the nearest office of the Occupational Safety and Health Service of the Department of Labour.

Access to monitoring results

The results of workplace environmental monitoring should be provided to those employees with the potential for exposure to the substances monitored. Records of such monitoring, with personal identifiers removed, should be readily accessible to all employees.

2.5 TRAINING AND SUPERVISION

This section provides guidance on achieving compliance with section 13 of the HSE Act with respect to substances hazardous to health.

Training shall ensure that employees have the appropriate competencies to recognise and minimise the risks of using or handling substances hazardous to health.

It is the employer's responsibility to ensure that the training and information is understood by employees. This is particularly important when providing training to employees who do not have English as their first language.

EMPLOYER RESPONSIBILITIES

Employers have the responsibility to ensure that employees exposed to substances hazardous to health are adequately trained. The training shall be extended to all employees whose work potentially exposes them to substances hazardous to health and those employees who are supervising others using substances hazardous to health at work.

Induction training shall be provided before a person begins work with substances hazardous to health. This training shall ensure that the person is able to use the substances hazardous to health safely and are also able to use and maintain any protective clothing and equipment.

Supervision shall be provided until an employee can demonstrate competence and an understanding of the process involving substances hazardous to health. Ongoing supervision and training should be commensurate with the risk to health as identified in the assessment process.





ELEMENTS OF A TRAINING PROGRAMME

While the content of both induction and ongoing training shall be suited to the tasks to be performed, the following elements would normally be incorporated:

Information about the substance

- Recognising and interpreting the information on a label of a substance hazardous to health; and
- How to access the MSDS and the information each part of the MSDS can provide.

Information on using the substance

- Specific work practices or procedures to be followed when using or handling a substance hazardous to health; and
- Any control measures in the workplace, including any information required by an employee to ensure the correct use and maintenance of the control measure(s).

Information on personal health and safety

- The routes of entry into the body of a substance hazardous to health and ways of limiting exposure;
- The correct use, fit and maintenance of protective clothing and equipment;
- The nature of, and reasons for, any monitoring required and access to the results of monitoring;
- The nature of, and reasons for, any health surveillance required in order to detect the effects of exposure to a substance hazardous to health; and
- The importance of asking a supervisor if the employee is unsure about the requirements for the safe handling of a substance hazardous to health.

Emergency procedures

- Any procedure to be followed in case of an emergency involving a substance hazardous to health, including the use of all emergency equipment and any special decontamination procedures to be followed; and
- First aid and incident reporting procedures to be followed in case of injury or illness.

TRAINING METHODS

It is recommended that training should be designed to:

- Draw on employees' knowledge and experience;
- Take into account literacy levels and any language barriers; and
- Be practical and include where possible hands-on components, for example, the use and fitting of personal protective equipment.

Training effectiveness should be validated by checking that employees understand and can apply the knowledge gained. The method used for validation could, depending on the nature of the work, range from written and practical tests to simply observing the tasks performed.

TRAINING RECORDS

A record should be maintained of the competencies that the employees gain for working with substances hazardous to health. This will allow for the scheduling of refresher training and assist in ensuring that a match between allocated tasks and competencies is maintained.



3.1 INFORMATION TO BE PROVIDED BY THE SUPPLIER

It is noted that at the time of issue of this code there is no legal requirement for the supplier of a substance hazardous to health to provide specific health and safety information.

MATERIAL SAFETY DATA SHEETS

The purpose of material safety data sheets (MSDS) is to provide the information needed to allow the safe handling of hazardous substances used at work. The MSDS for a substance describes its identity, relevant health hazard information, precautions for use and safe handling, disposal and emergency response information.

Availability of MSDS

Suppliers should have available MSDS for all substances hazardous to health they supply. MSDS should also be available for products that give rise to substances hazardous to health during their use and/or storage, for example welding rods, swimming pool chlorine granules, etc.

The MSDS should be in the format given in the publication *Guidelines for the Preparation of Material Safety Data Sheets in New Zealand* or contain equivalent information. MSDS obtained from other countries, complying for example with ISO, ILO, EC or Worksafe Australia formats, should be modified to include reference to New Zealand legislation, Workplace Exposure Standards and emergency telephone contact numbers.

Supply of MSDS

A current MSDS should be supplied with or prior to the initial delivery of a substance hazardous to health. Provided that MSDS continue to be available on request, there is no need to include an MSDS with every delivery. When an MSDS is revised a copy of the revised MSDS should be sent to the purchaser as soon as it is revised.

LABELLING


Suppliers should ensure that any container supplied for use in a place of work carries sufficient information for the safe use of the product it contains, and is labelled in a way that allows for positive identification of the product. Packaging of articles that are known to give rise to substances hazardous to health during their use, for example welding rods, should be labelled accordingly.

All labelling should be clearly legible and in a form that is unlikely to become damaged with normal handling. The label must comply with all legal requirements currently applicable in New Zealand.

In order to allow the safe handling of a product in a workplace, the information on a label should contain the following minimum information:

- The product name and if necessary a product number or identifier to link the product with the corresponding MSDS or information sheet;
- The name and address of the manufacturer or importer;
- A list of all substances hazardous to health contained in the product;





and their approximate concentrations. Where the product contains a number of similar chemicals it may not be practical to list them individually, but the information on the label should contain sufficient detail to allow for the safe use and handling of the product. For example, if a product contains aliphatic hydrocarbons and toluene, this should be on the label in preference to simply stating that it contains solvents;

- Warning of any particular handling requirement or incompatibility e.g. "Reacts violently with water", or other appropriate risk and safety phrase statements; and
- First aid procedures.

OTHER RELEVANT INFORMATION

As well as the current MSDS, suppliers should, on request, provide any further information they have access to regarding the safe use of substances hazardous to health they supply.

3.2 RESPONSIBILITIES OF EMPLOYEES

Section 19 of the Act describes the health and safety responsibilities of employees generally.

With respect to this code employees should:

- Fully utilise the control measures and personal protective equipment provided for them for use with and protection from exposure to substances hazardous to health;
- Follow instructions and guidelines regarding the use of substances hazardous to health at work;
- Draw to the attention of their employer any hazard or issue arising from the use of a substance hazardous to health that they become aware of;
- Follow safe work practices when working with or near substances hazardous to health to protect their own and others health and safety; and
- Participate in monitoring programmes.

3.3 PERSONS WITH CONTROL OF PLACES OF WORK

The general duties of persons with control of a place of work are set out in section 16 of the Act.

Persons with control of places of work, or equipment in a place of work, shall take all practicable steps to ensure that no one is harmed by exposure to substances hazardous to health in that place of work. With respect to this code this may be achieved by providing information to all persons possibly affected by substances hazardous to health and taking all reasonable actions to protect them from exposure.

3.4 SELF-EMPLOYED PERSONS

The general duties of self-employed people are set out in section 17 of the Act. In relation to this code, self-employed people should ensure that they are aware of the nature of any substances hazardous to health they are using and put in place measures to protect themselves and others in the vicinity from exposure to those substances hazardous to health.

Practical guidance on fulfilling these responsibilities is given in part 2 of this code.

3.5 PRINCIPALS TO A CONTRACT

A principal has a general duty under section 18 of the Act to take all practicable steps to ensure that contractors and their employees are not harmed by the work they are engaged to carry out. For example, where contractors or subcontractors are required to use or could be exposed to substances hazardous to health, and where those substances are provided by the principal, the principal should provide information to the contractor about those substances hazardous to health in the form of a MSDS together with any other relevant information.



4.1 BIBLIOGRAPHY

RELATED CODES OF PRACTICE (AVAILABLE FROM OSH)

- Approved Code of Practice for the Safe Use of Isocyanates*
- Approved Code of Practice for Managing Hazards to Prevent Major Industrial Accidents*
- Approved Code of Practice for Safety in Photoengraving and Lithographic Processes*
- Approved Code of Practice for Safety and Health in the Manufacture of Paint, Printing Inks and Resins*
- Approved Code of Practice for the Safe Use of Timber Preservatives and Antisapstain Chemicals*

RELATED GUIDELINES AND BOOKLETS (AVAILABLE FROM OSH)

- A Guide to Respirators and Breathing Apparatus*
- Guidelines for the Preparation of Material Safety Data Sheets*
- Guidelines for the Safe Use of Chemicals in Electroplating and Related Industries*
- Guidelines for the Medical Surveillance of Lead Workers*
- Guidelines for the Safe Handling of Cytotoxic Drugs and Related Waste*
- A Guide to Safety with Pesticides*
- Health and Safety Guidelines on the Cleanup of Contaminated Sites*
- The Safe Occupational Use of Glutaraldehyde in the Health Industries*
- Practical Guidelines for the Safe Use of Organic Solvents*


STANDARDS (AVAILABLE FROM STANDARDS NEW ZEALAND)

- AS 1345:1995 *Identification of the contents of pipes, conduits and ducts*
- AS 2243 (set) *Safety in laboratories*
- AS/NZS 1716:1994 *Respiratory protective devices*
- AS/NZS 1715:1994 *Selection, use and maintenance of respiratory protective devices*
- AS/NZS 1337:1992 *Eye protectors for industrial applications*
- AS 3765:1990 *Clothing for protection against hazardous chemicals*

OTHER SOURCES OF INFORMATION

- American Conference of Governmental Industrial Hygienists. *Documentation of*





the Threshold Limit Values and Biological Exposure Indices. 6th ed. ACGIH, Cincinnati, Ohio, 1991

ILO Encyclopaedia of Occupational Health and Safety. 3rd ed. 2 vols. International Labour Office, Geneva, 1983.

Lauwerys R R, Hoet P *Industrial Chemical Exposures, Guidelines for Biological Monitoring.* 2nd ed. Lewis Publishers, 1993

OSH's Internet site: <http://www.osh.dol.govt.nz>

Patty's Industrial Hygiene and Toxicology. 3 vols. John Wiley and Sons.

The Responsible Care Management System — Manager's Handbook. NZ Chemical Industry Council, 1994

Sax's Dangerous Properties of Industrial Materials. 9th ed. Van Nostrand Reinhold, 1996

4.2 SUBSTANCES HAZARDOUS TO HEALTH AND PROCESSES WHERE HEALTH SURVEILLANCE MAY BE REQUIRED

Health surveillance may be required for workers involved with the following substances or processes. Notes on the relevance of monitoring and recommended procedures for medical surveillance for these substances are contained in the *Guidelines for Workplace Health Surveillance* series that can be obtained from Occupational Safety and Health Service branch offices.

Substances

Cadmium

Inorganic arsenic

Isocyanates

Lead

Mercury

MOCA (4,4 Methylene bis (2-chloroaniline))

Organophosphate pesticides

Processes

Electroplating involving chromium and cadmium compounds.

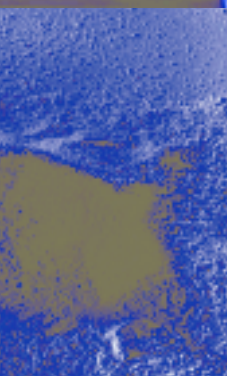
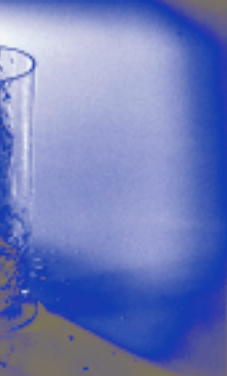
Biological monitoring tests may be applicable for assessing exposure to other substances. The introduction to the *Guidelines for Workplace Health Surveillance* contains information on some of the procedures that are available.

4.3: MATERIAL SAFETY DATA SHEET AND PRODUCT SAFETY CARD

The following formats for Material Safety Data Sheets and Product Safety Cards are recommended in the *Guidelines for the Preparation of Material Safety Data Sheets in New Zealand*.

Page x of Total y		
Date of issue:		
STATEMENT OF HAZARDOUS NATURE	<i>(statement indicating any specific classification of the product as a hazardous substance under New Zealand legislation)</i>	
COMPANY DETAILS		
Company:	<i>(company name with logo , if desired)</i>	
Address:	<i>(should be a New Zealand address)</i>	
Telephone Number:	<i>(should be a New Zealand telephone number with STD code)</i>	
Emergency Telephone Number:	<i>(must be a New Zealand telephone number where additional health and safety information can be obtained. Times of operation should also be given)</i>	
IDENTIFICATION		
Product Name:	<i>(name by which the product is known)</i>	
Other Names:	<i>(other names or synonyms by which the product is known)</i>	
Manufacturer's Product Code:	<i>(any internal identification code)</i>	
U.N. Number:	<i>(correct entry from NZS 5433 or UN Orange Book)</i>	
Dangerous Goods Class:	<i>(any classification under the Dangerous Goods Act and Regulations)</i>	
Hazchem Code:	<i>(the emergency action Hazchem Code of numbers and letters)</i>	
Toxic Substances Schedule:	<i>(as set out in the Toxic Substances Regulations 1983)</i>	
Uses:	<i>(list all major uses and methods of application in descending order)</i>	
Physical Description/Properties		
Appearance:	<i>(describe colour, odour, form)</i>	
Boiling Point/Melting Point:	<i>(°C)</i>	
Vapour Pressure:	<i>(pascals or mm of Hg at 25 °C)</i>	
Specific Gravity:	<i>(specific gravity of product compared to water being equal to one)</i>	
Flash Point:	<i>(°C)</i>	
Flammability Limits:	<i>(give upper and lower limits expressed as a %)</i>	
Solubility in water:	<i>(should be stated in g/L at a given temperature)</i>	
Other Properties:	<i>(include all relevant data on other physical properties)</i>	
Ingredients		
<u>Chemical Entity</u>	<u>Cas No.</u>	<u>Proportion</u>
<i>(must include all substances hazardous to health)</i>		
HEALTH HAZARD INFORMATION		
Health Effects		
<i>Acute</i>	Swallowed: <i>(include all relevant data on known health effects, both short and long term)</i>	
	Eye:	
	Skin:	
	Inhaled:	
<i>Chronic:</i>		





First Aid *(should give simple instruction for use by exposed individual, bystanders and first aid officers.)*

Swallowed: *(should give simple instruction for use by exposed individual, bystanders and first aid officers.)*

Eye:

Skin:

Inhaled:

First Aid Facilities:

Advice to Doctor: *(should be compiled in consultation with persons with medical expertise.)*

PRECAUTIONS FOR USE

Exposure Standards *(should list relevant New Zealand Workplace Exposure Standard)*

Engineering Controls *(should define requirements for engineering controls suitable for use with the substance. Engineering controls include mechanical ventilation and process modification.)*

Personal Protection: *(should list the requirements for personal protection including respirator and gloves. Recommendations should be specific, defining respirator type, glove type, etc.)*

Flammability: *(define the need for ventilated areas, earthing, avoid sources of ignition, special equipment, eg flame proofing.)*

SAFE HANDLING INFORMATION

Storage and Transport *(define safe storage requirements, eg location, temperature or incompatibility - also list classification under the NZS 5433 :1988 Code of Practice for the Transport of Hazardous Substances on Land or UN Recommendations on the Transport of Dangerous Goods Orange Book)*

Spills and Disposal *(specify where materials should be disposed of, eg. landfill, incineration and disposal, neutralising tank, settling pond etc. Identify materials to be used to absorb or neutralise spill and draw attention to the need for compliance with local codes/bylaws for proper disposal.)*

Fire/Explosion Hazard *(define the explosive and flammability characteristics, including Hazard: description of types of extinguishers and listing possible dangerous decomposition products.)*

OTHER INFORMATION: *(an open section to provide any additional information which a manufacturer wants to provide. Examples of information such as biodegradability or persistence in soil and water, and any other ecotoxic information.)*

CONTACT POINT: *(should give the direct telephone number where named personnel can be contacted.)*



PRODUCT SAFETY CARD

NOTE - THIS IS NOT A MATERIAL SAFETY DATA SHEET

Date of issue:

[place warning pictograms here]

Product Name

IDENTIFICATION

Statement of Hazardous Nature:

Manufacturer/Importer:

UN. Number:

Dangerous Goods Class:

Hazchem Code:

Toxic Substances Schedule:

Uses:

Properties

Appearance:

Boiling Point:

Flash Point (°C)

Flammability Limits (%):

Ingredients

Chemical name

CAS Number

Amount

HEALTH HAZARD INFORMATION

Health Effects

Acute

Swallowed:

Eyes:

Skin:

Inhaled:

Chronic :

First Aid

Swallowed:

Eyes:

Skin:

Inhaled:

First Aid Facilities:

PRECAUTIONS FOR USE

Engineering Controls:

Personal Protection:

Flammability:

SAFE HANDLING INFORMATION

Storage and Transport:

Spills and Disposal:

Fire/Explosion Hazard:

OTHER INFORMATION

Incompatible Substances:

Emergency Telephone Number:

Location of Material Safety Data Sheet:

Contact Point:



4.4 A SUMMARY OF THE HEALTH AND SAFETY IN EMPLOYMENT ACT 1992

The principal object of the Health and Safety in Employment Act 1992 (HSE Act) is to prevent harm to employees at work. To do this, it imposes duties on employers, employees, principals and others, and promotes excellent health and safety management by employers. It also provides for the making of regulations and codes of practice.

REGULATIONS

Regulations are promulgated from time to time under the HSE Act. Regulations may impose duties on employers, employees, designers, manufacturers, and others relating to health and safety. These regulations may apply with respect to places of work, plant, processes or substances and may have been made to deal with particular problems that have arisen.

APPROVED CODES OF PRACTICE

“Approved codes of practice” are provided for in the HSE Act. They are statements of preferred work practice or arrangements, and may include procedures which could be taken into account when deciding on the practicable steps to be taken. Compliance with codes of practice is not mandatory. However, it may be used as evidence of good practice in court.

EMPLOYERS' DUTIES

Employers have the most duties to perform to ensure the health and safety of employees.

Employers have a general duty to take all practicable steps to ensure the safety of employees at work. In particular, they are required to take all practicable steps to:

- (a) Provide and maintain a safe working environment;
- (b) Provide and maintain facilities for the safety and health of employees at work;
- (c) Ensure that machinery and equipment is safe for employees;
- (d) Ensure that working arrangements are not hazardous to employees; and
- (e) Provide procedures to deal with emergencies that may arise while employees are at work.

Taking “all practicable steps” means doing what is reasonably able to be done in the circumstances, taking into account:

- (a) The severity of any injury or harm to health that may occur;
- (b) The degree of risk or probability of that injury or harm occurring;
- (c) How much is known about the hazard and the ways of eliminating, reducing or controlling it; and
- (d) The availability, effectiveness and cost of the possible safeguards.

HAZARD MANAGEMENT

Employers shall identify and regularly review hazards in the place of work (existing, new and potential), to determine whether they are significant hazards and require further action. If an accident or harm occurs that requires particulars to be recorded, employers are required to investigate it to determine if it was caused by or arose from a significant hazard.

“Significant hazard” means a hazard that is an actual or potential cause or source of:

- (a) Serious harm; or
- (b) Harm (being more than trivial) where the severity of effects on any person depends (entirely or among other things) on the extent or frequency of the person’s exposure to the hazard; or
- (c) Harm that does not usually occur, or usually is not easily detectable until a significant time after exposure to the hazard.

Where the hazard is significant, the HSE Act sets out the steps employers shall take:

- (a) Where practicable, the hazard shall be *eliminated*.
- (b) If elimination is not practicable, the hazard shall be *isolated*.
- (c) If it is impracticable to eliminate or isolate the hazard completely, then employers shall *minimise* the hazard to employees.

Where the hazard has not been eliminated or isolated, employers shall, where appropriate:

- (a) Ensure that protective clothing and equipment is provided, accessible and used;
- (b) Monitor employees’ exposure to the hazard;
- (c) Seek the consent of employees to monitor their health; and
- (d) With informed consent, monitor employees’ health.

INFORMATION FOR EMPLOYEES

Before employees begin work, they shall be informed by their employer of:


- (a) Hazards employees may be exposed to while at work;
- (b) Hazards employees may create which could harm other people;
- (c) How to minimise the likelihood of these hazards becoming a source of harm to themselves and others;
- (d) The location of safety equipment; and
- (e) Emergency procedures.

Employers are also required to inform employees of the results of any health and safety monitoring. In doing so, the privacy of individual employees shall be protected.

EMPLOYERS TO INVOLVE EMPLOYEES IN THE DEVELOPMENT OF HEALTH AND SAFETY PROCEDURES

Employers need to ensure that all employees have the opportunity to be fully involved in the development of procedures for the purpose of identifying





hazards and dealing with significant hazards or dealing with or reacting to emergencies and imminent dangers.

TRAINING OF EMPLOYEES

Employers shall ensure employees are either sufficiently experienced to do their work safely or are supervised by an experienced person. In addition, employees shall be adequately trained in the safe use of equipment in the place of work, including protective clothing and equipment.

SAFETY OF PEOPLE WHO ARE NOT EMPLOYEES

Employers are also responsible for the health and safety of people who are not employees. Employers shall take all practicable steps to ensure that employees do not harm any other person while at work, including members of the public or visitors to the place of work.

EMPLOYEES AND SELF-EMPLOYED PERSONS' DUTIES

Employees and self-employed persons are responsible for their own safety and health while at work. They shall also ensure that their actions do not harm anyone else. However, these responsibilities do not detract from the employer's or principal's responsibilities.

ACCIDENTS AND SERIOUS HARM (RECORDS AND NOTIFICATION)

The HSE Act requires employers to keep a register of work-related accidents and serious harm. This includes every accident that harmed (or might have harmed):

- (a) Any employee at work;
- (b) Any person in a place of work under the employer's control.

Employers are also required to investigate all accidents, harm and near-misses to determine whether they were caused by a significant hazard.

Employers are required to notify serious harm that occurs to employees while at work to the Secretary of Labour (in practice, the nearest OSH office), as soon as possible. In addition, the accident shall be reported in the prescribed form within 7 days. (Forms are included in the *Workplace Accident Register* available from OSH offices and selected stationers.)

If a person suffers serious harm, the scene of the accident shall not be disturbed unless to:

- (a) Save life or prevent suffering;
- (b) Maintain public access for essential services, e.g. electricity, gas; or
- (c) Prevent serious damage or loss of property.

The OSH office will advise whether it wishes to investigate the accident and what action may be taken in the meantime.