Your health and safety guide to
Hazardous substances
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The information presented in Your health and safety guide to hazardous substances is intended for general use only. It should not be viewed as a definitive guide to the law, and should be read in conjunction with the Occupational Health and Safety Act 2004.
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WorkSafe Victoria is a division of the Victorian WorkCover Authority.
Unsafe use and handling of hazardous substances can cause cancer, skin disease, poisoning and respiratory illness.

A quarter of all Victorian employees regularly use hazardous substances such as chemicals, flammable liquids and gases in their work.

This guide will help you understand the risks, and will explain what you need to do to make your workplace safe.
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Glossary
What are hazardous substances?

Hazardous substances are substances that have the potential to harm people’s health. They can be solids, liquids or gases and, when used in the workplace, they are often in the form of fumes, dusts, mists and vapours.

Examples of hazardous substances include:
- acute toxins such as cyanide
- substances harmful after repeated or prolonged exposure such as mercury and silica
- corrosives such as sulphuric acid and caustic soda
- irritants such as ammonia
- sensitising agents such as isocyanates, and
- carcinogens (cancer-causing substances) such as benzene and vinyl chloride.

A substance is defined as hazardous if:
- it is listed on the national Hazardous Substances Information System and the concentration of the substance or its ingredients equals or exceeds the listed concentration cut-off levels, or
- it meets the criteria set out in the national Approved Criteria for Classifying Hazardous Substances.

Carcinogenic substances

Carcinogenic substances are hazardous substances that can cause cancer. Substances scheduled as carcinogens are listed in schedule 1 and schedule 2 of the National Code of Practice for the Control of Carcinogenic Substances.

How can exposure affect your health?

Hazardous substances can be inhaled or absorbed through the skin and can cause both immediate and long-term health problems, including poisoning, irritation, chemical burns, sensitisation, cancer and birth defects.

They can also cause diseases of certain organs such as the skin, lungs, liver, kidneys and nervous system.

What determines the level of risk?

The level of risk posed by a hazardous substance depends on:
- the substance (i.e. form, concentration, toxicity, health effects, and physical and chemical properties)
- the nature of the work (i.e. how the substance is used or handled, quantities, routes of exposure, etc).
Your legal duties

The law

**Occupational Health and Safety Act 2004 (OHS Act)**

The OHS Act came into effect on 1 July 2005. It sets out the key principles, duties and rights in relation to occupational health and safety. The duties imposed by the Act cover a wide variety of circumstances, recognising the need for a duty-holder to have flexibility in determining what needs to be done to comply.

The OHS Act is based upon the following key health and safety principles:

- All people – employees and the general public – should have the highest level of protection against risks to health and safety.
- Those who manage or control things that create health and safety risks in the workplace are responsible for eliminating or reducing the risks, so far as is reasonably practicable.
- Employers should be proactive in promoting health and safety in the workplace.
- Information and ideas about risks and how to control them should be shared between employers and employees.
- Employees are entitled – and should be encouraged – to be represented in relation to health and safety issues.

**Occupational Health and Safety Regulations 2007 (OHS Regulations 2007)**

New Regulations for occupational health and safety came into effect on 1 July 2007. The hazardous substances part of the OHS Regulations is intended to monitor the use of hazardous substances in Victorian workplaces in order to prevent injuries and death resulting from exposure to hazardous substances and carcinogens.

To do this, the Regulations impose specific legal responsibilities for the control of hazardous substances on employers, self-employed persons, employees, manufacturers, importing suppliers and suppliers.
Employers

As an employer, you have a general duty to make your workplace safe, as well as the following duties in relation to hazardous substances.

Control risk

You must eliminate any risks associated with hazardous substances in your workplace.

If it’s not reasonably practicable to eliminate the risk, you must reduce the risk, as far as reasonably practicable, by:

- using a less hazardous substance or a safer form of the substance
- isolating employees from exposure, or
- using engineering controls.

You must review (and, where necessary, revise) your risk controls if things change, if medical reports show there is a problem, or at the request of a health and safety representative.

You have a duty to consult employees and health and safety representatives when identifying hazards and deciding on control measures.

Some hazardous substances are prohibited for specific purposes such as the use of abrasives containing crystalline silica for abrasive blasting.

If any of the hazardous substances you use are scheduled carcinogens you must hold a licence to use them.

Obtain and provide information on hazardous substances

Employers are required to:

- keep a register of all hazardous substances supplied to your workplace
- obtain a current Material Safety Data Sheet (MSDS) for each hazardous substance
- make the MSDS accessible to employees
- not alter the information on an MSDS
- ensure that containers in which hazardous substances are supplied are labelled
- identify containers of waste.
Identify hazardous substances in plant
You must ensure that hazardous substances contained in a piping system, process vessel or plant that forms part of a manufacturing process are identified to anyone who may be exposed to them. You can do this by using a colour-coded sign system which follows the Australian Standard AS 1345 for Identification of Contents of Pipes, Conduits and Ducts.

Conduct atmospheric monitoring and health surveillance
Employees must not be exposed to an atmospheric concentration of a hazardous substance that exceeds any relevant exposure standard. If there is uncertainty about whether the exposure standard could be exceeded, you must carry out atmospheric monitoring, provide the results of the monitoring to employees and keep a record of the results and give the results of the monitoring to the employees involved. You must also provide health surveillance for employees exposed to certain hazardous substances and keep a record of the results.

Self-employed persons
If you are a self-employed person, you have the same legal duties as an employer. You must ensure, as far as reasonably practicable, that people are not exposed to health and safety risks arising from your work. You also have a specific duty under the hazardous substances part of the Regulations not to use a prohibited substance.

Employees
Your employer is required to protect you from the risk of exposure to hazardous substances in the workplace. At the same time, you have a general duty to take reasonable care for your own health and safety, and that of others who may be affected by your work, and to cooperate with your employer’s efforts to make the workplace safe.
This may include:
• following workplace safety policies and procedures
• using control measures provided
• participating in any health surveillance as required
• attending health and safety training
• helping to identify hazards and risks.
Manufacturers and suppliers

Manufacturers, importing suppliers and suppliers have specific duties in relation to hazardous substances used at workplaces.

If you are a manufacturer or importing supplier of a substance for use in a workplace, you must:

- determine whether the substance is hazardous
- prepare an MSDS
- review and revise the MSDS
- label containers of the hazardous substance
- disclose a chemical name to a registered medical practitioner in certain circumstances.

Manufacturers, importing suppliers and suppliers must provide a current MSDS to any person to whom the substance is supplied and to any employer on request. It must be supplied before the hazardous substance is used for the first time at a workplace.

If you are a supplier, you must also ensure that containers of hazardous substances are labelled.

You must not supply carcinogenic substances to anyone who does not hold a licence to use them.

Compliance and enforcement

WorkSafe applies a strategy of ‘constructive compliance’ – a combination of incentives and deterrents – to improve workplace health and safety.

This strategy recognises that real and sustainable improvement in workplace health and safety requires active involvement from employers and employees in identifying hazards and controlling risks.

WorkSafe inspectors have the primary role of targeting unsafe workplace activity, enforcing compliance with health and safety laws, and providing guidance and advice on how to comply with those laws.

Further information on workplace inspections and WorkSafe’s enforcement policy is available through the WorkSafe Advisory Service (1800 136 089) or at www.worksafe.vic.gov.au
How to comply

WorkSafe has a range of guidance materials to advise on the required processes and actions that duty-holders must take in order to meet their legal obligations. *Compliance Codes, Health and Safety Solutions* and *Guidance Notes* each provide detailed and specific advice for duty-holders seeking to comply with the OHS Regulations. See also the enclosed *More information* sheet for a listing of guidance materials related to hazardous substances.

Consult

Employees’ expertise can make a significant contribution to improving workplace health and safety. Regular, proactive consultation can help identify issues in the workplace and build a strong commitment to health and safety by including all views in the decision-making process.

Under the OHS Act, employers must consult with employees when identifying and assessing hazards or risks associated with exposure to hazardous substances, and making decisions about risk control.

‘Employees’ includes independent contractors (and any employees of the independent contractor(s)) who perform work which the employer has, or should have, control over.

If employees are represented by health and safety representatives, the consultation must involve those representatives – see *Your health and safety guide to consultation* for further information.
Whether you are an employer, a manufacturer or a supplier, you need to gather as much information as you can on all the substances that you deal with to establish a register of all the hazardous substances used in your workplace. You then need to ensure you have the necessary information about them to enable you to determine whether they are hazardous, carcinogenic or even prohibited.

Material safety data sheets (MSDS) are the main information source regarding a substance. They contain information about the product contents, potential health hazards, first aid treatment, precautions for use, safe handling information and an Australian contact point.

Manufacturers or importing suppliers’ labels also provide useful information. Labels of hazardous substances contain warnings, information on the ingredients, risk and safety information and contact details.

You can also refer to the Hazardous Substances Information System internet resource to identify hazardous substances generated from non-hazardous substances and to check whether ingredients contained in a substance are hazardous. Employers are also required to ensure that employees are not exposed to airborne contaminants at dangerous levels and should refer to a substance’s MSDS and the National Exposure Standards for more information.

Ongoing health surveillance and atmospheric monitoring will enable you to identify the presence of any health risks resulting from your use of hazardous substances.
Fix

Work through the following list to control risks from hazardous substances. In many instances, a combination of approaches will result in the best solution.

1. Eliminate the hazardous substance
   The best option is to remove the substance completely, so you should always try to do this first.
   
   **Example:** Use a physical process rather than a chemical process to clean an object.

2. Use a safer substance, isolate the substance from people or use engineering controls
   If you can't remove the substance altogether, think about changing the form of the substance or the way that it is used.
   
   **Example:** Use a detergent instead of a chlorinated solvent for cleaning, or install exhaust extraction to remove contaminants.

3. Use administrative controls
   If you can’t change the substance or processes, try to change the way the work is done.
   
   **Example:** Reduce the number of employees exposed to the substance by performing the task out of normal working hours.

4. Provide personal protective equipment
   If no other measures will totally solve the problem, use personal protective equipment to reduce the risk.
   
   **Example:** Provide employees with respirators.
It’s important to review your risk controls regularly to ensure they are implemented correctly and to monitor their effectiveness. You need to review (and, if necessary, revise) your risk controls whenever any changes are made to the workplace that could increase risks, such as changes to the way work is done or to the substances used.

A review is also necessary if any employees suffer any health problems or if a health and safety representative requests one.

Employees and HSRs must be consulted when reviewing risk controls.
Biological monitoring – A process for determining the amount of a substance (or its metabolites) in body fluids or exhaled air. Biological monitoring is a form of health surveillance.

Carcinogenic substances – Hazardous substances that can cause cancer.

Employee – A person employed under a contract of employment or contract of training.

Employer – A person who employs one or more people under contracts of employment or contracts of training.

Exposure standard – An airborne concentration of a particular substance in a person’s breathing zone as established by the Australian Safety and Compensation Council (ASCC) Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)].

Hazard – A potential source of harm or injury. The potential to cause injury, illness or disease.

Hazardous substances information system (HSIS) – An internet resource managed by the Australian Safety and Compensation Council (ASCC) that allows you to find information on substances that have been classified. It can be found at http://hsis.ascc.gov.au.

Health and safety representative (HSR) – A member of a designated work group elected to represent employees on matters relating to occupational health and safety.

Health surveillance – Monitoring of an individual’s health to identify changes in their physical wellbeing following exposure to a hazardous substance, including biological monitoring but not including the monitoring of atmospheric contaminants.

Material safety data sheet (MSDS) – An MSDS provides the information needed to allow the safe handling of hazardous substances used at work. Information on the properties of the substance, the toxicity, reactivity and the precautions for safe use are included in the MSDS.

Personal protective equipment – Equipment or clothing used to provide protection, e.g. gloves, safety glasses, hard hats, goggles, earmuffs, safety shoes, respirators and fall arrest systems.

Plant – Any machinery, equipment, appliance, implement or tool; any component of any of these things; and anything fitted, connected or related to any of these things.

Reasonably practicable – See section 20(2) of the OHS Act and the WorkSafe Position on How WorkSafe applies the law in relation to reasonably practicable.
If this Hazard Guide does not contain an up-to-date More information sheet, please go to www.worksafe.vic.gov.au to download the PDF or contact us on 1800 136 089 to request a printed copy.
There's plenty more information about health and safety...

www.worksafe.vic.gov.au

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