KEYS
HUMAN RESOURCES

ABN 28 112 868 158
ACN 112 868 156

PO BOX 5
Nundah QLD 4012

TELEPHONE
07 3876 2202

EMAIL
keys@keyshr.com

FACSIMILE
07 3876 2090

# Hazardous Substances

Over 35,000 different types of chemicals are used today in our places of work. Approximately 200new chemicals are introduced into Australia each year.

| TYPES OF CHEMICALS |
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| • Industrial chemicals such as solvents, cleaners or degreasers |
| • Paints |
| • Pesticides |
| • Drugs and medicines |
| • Cosmetics |

| FORMS OF CHEMICALS |
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| • Solids, e.g. granules, plastics |
| • Dusts, e.g. wood, coal, metals or fibres |
| • Liquids, e.g. acids, alkalis or solvents |
| • Gases. Some have an odour or a colour which makes them easy to detect, others do not |
| • Vapours. These are the gases from substances normally in solid or liquid state, e.g steam, aerosols or very fine liquid or solid particles dispersed in the air |

| WAYS CHEMICALS CAN ENTER THE BODY |
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| • Inhalation through your nose and/or mouth |
| • Absorption through the skin |
| • Ingestion through the mouth |
| • Injection (a chemical under high pressure or on a sharp object that pierces the skin) |

Once inside your body the effect of different chemicals will vary from person to person and may be either acute or chronic. Acute exposure usually results in immediate symptoms which can range all the way from minor irritation to death. Serious injury or death is often the result of accidents where a toxic substance is rapidly absorbed into the body.

Chronic is the term given to exposure characterised by symptoms of disease that have developed slowly over time. These effects are related to continuous exposure to toxic substances that either accumulate in the body gradually or cause irreversible health damage at each exposure.

| RISKS OF EXPOSURE |
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| • Toxicity – how poisonous the product is |
| • Dose – how much of the chemical actually enters the body |
| • Frequency – how often someone is exposed |

| CHEMICAL LABELS SHOULD ADVISE THE FOLLOWING |
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| • The correct amount to use |
| • The appropriate personal protective equipment to use |
| • Clean up directions |
| • Basic first aid directions |

It will also indicate whether the chemical is a dangerous good (look for the coloured diamond)

The safety instructions on the label should be followed at all times but it is important to note labels will supply only some of the information needed. For more detailed information on any chemical, the Material Safety Data Sheet (MSDS) should be consulted.

The MSDS will provide detailed information on the properties and uses of the substance, health hazard information, precautions for use, safe handling requirements, first aid and emergency information, correct storage and disposal requirements.

It will also indicate whether the chemical is classified as a hazardous substance.

Product suppliers will make the MSDS's available and they should be available for your information prior to and when using any chemical product.

Apart from the following safe work procedures, it is also important to wear all personal protective equipment and clothing recommended on the MSDS. This will provide a barrier to the chemicals. But remember that with PPE and clothing the hazard remains present so following the correct precautions for handling and use is extremely important.

If a chemical is classified as a hazardous substance, then a risk assessment is required to be carried out in its use.

| KEY THINGS TO KNOW WHEN USING CHEMICALS IN THE WORKPLACE |
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| • Everyone must be aware of where the material safety data sheets for the chemicals are kept |
| • Whether or not risk assessments have been completed for the of particular chemicals |
| • Where the safe work procedures are for using each chemical |
| • First aid requirements for dealing injuries sustained from accidents arising in connection with the use of particular substances and where these facilities are |
| • Special storage and handling procedures for the materials |

**Questions:**

1. How many new chemicals are introduced into Australia each year?

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2. What are some of the types of chemicals?

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3. Can you name three ways that chemicals can enter your body?

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Can you name three of the basic directions for use that you should read off the label before using the product?

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4. What document will provide detailed information about the chemical and how it should be handled?

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5. Under what circumstances a risk assessment should be carried out?

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