

Overview

Background

There are many situations across a construction site in which any or all of the various trades may be at risk of exposure to substances that are harmful to health. These hazardous substances should have been identified in the risk assessment at the start of the project, and a risk assessment carried out for all activities where exposure could occur.

Qualified Occupational Hygienists can

- Help with your risk assessment, which must identify problems, assess the level of risk and consider appropriate control measures.
- Advise on ventilation design, PPE/RPE specifications and supplier recommendations for all controls.
- Undertake air monitoring.

Purpose

These fact sheets focus on respiratory health hazards and are aimed at site supervisors and managers to provide a broad understanding of:

- The typical and possible respiratory health hazards associated with the different construction trades;
- The likely individual exposure risks;
- The range of possible and preferred exposure controls; and
- Where to go for further help and advice.

Scope

There are 20 trades covered by individual fact sheets in the series:

- **Asbestos Licensed Worker**
- **Bricklayer**
- **Carpenter**
- **Concrete Sprayer**
- **Demolition Operative**
- **Electrician**
- **Form Worker**
- **General Site Operative**
- **Glazier**
- **Painter/Decorator**
- **Pipe Fitter**
- **Plumbing/Heating Engineer**
- **Plasterer**
- **Road Worker**
- **Roofer**
- **Specialist Plant Operative**
- **Steel Erector/Fabricator**
- **Stonemason**
- **Wall/Floor Tiler**
- **Welder**

Only respiratory ill-health is covered. The list of activities, respiratory hazards and risks, and the controls outlined in each fact sheet is not exhaustive. There are links to further information and guidance.

The information is based good occupational hygiene principles and practice. The Safe Work Australia Hazardous Chemical Information Centre (HSIC) has been used as the reference for workplace exposure standards (WES) quoted, which applied at the time of publication.

Asbestos controls

- Some trades have a higher risk of exposure to asbestos such as Demolition Operatives, Electricians, Glaziers, Heating Engineers, Painters, Pipe Fitters, Plasterers and Roofers. Contractors removing asbestos must be licensed and complying with State legislation. Asbestos Cement materials were first manufactured in 1920's in Australia and can be found in building materials from the mid-1940's until the late 1980's. Asbestos was totally banned in 31 December 2003. Any construction work on buildings built before 2000 might involve a risk of inadvertent exposure to asbestos and anyone undertaking demolition/refurbishment work should receive asbestos awareness training as a minimum requirement.
- When asbestos is, or could potentially be, present a detailed asbestos survey should have been carried out to identify where it is and what condition it is in. Before starting any work that is likely to disturb asbestos, an asbestos risk assessment must have been prepared by a competent person. A qualified Occupational Hygienist can be this competent person.

Workplace Exposure Standards (WES)

If a substance has a WES, the limit must not be exceeded. Materials that can cause asthma, cancer or are mutagens (cause genetic damage) must be controlled so that exposure is as low as reasonably practicable.

Preferred control methods

Exposure controls should be task specific, follow the risk assessment principles of good control practice and also fit within a hierarchy that begins with elimination, replacing with a less hazardous substance, considers engineering controls or safer working methods, and considers PPE (including RPE) as a last resort.

Managing the risks

Training & communication

The outcomes from your risk assessments should be communicated so that each potential exposure scenario is properly understood and considered by supervisors and operators alike, and that everyone follows the information to prevent or control their exposure on an ongoing basis. This also means providing training to all workers on the risks from the substances and the health effects, safe working methods, how to use and check control measures (including how to fit, wear and maintain any RPE and PPE), and what to do if something goes wrong. Workers should always be consulted whilst selecting controls, and everyone must feel safe to discuss any health concerns with supervisors. Documentation and record keeping for all your risk assessments and risk management programmes and actions, must be in place and up-to-date.

Supervision

Because exposure to many airborne pollutants does not always have an immediate effect on health, control measures may not be taken seriously; this is partly why thousands of construction workers are still dying every year from exposures to substances such as asbestos fibres and silica dust which occurred a long time ago. Strong and on-going supervision is therefore required to ensure controls are consistently and properly used across the whole site, by all workers, and over the course of the whole project.

Maintenance and testing of controls

All controls should be visually inspected before work starts, and then regularly inspected and effectively maintained, which includes proper cleaning and storage. LEV must be thoroughly examined and tested by a competent person, and visually inspected at least weekly. Non-disposable RPE must be checked at least monthly.

Air monitoring

Air monitoring can be used to assess compliance with relevant WES, to help select the right exposure controls and to test the effectiveness of the controls in place. It may be needed as part of the risk assessment and then periodically, and should be repeated in the event of a process or workplace change, or where there has been a failure in a control, for example if a worker reports respiratory symptoms. Air monitoring is a specialist activity and a qualified Occupational Hygienist can ensure it is carried out in a way that provides meaningful and helpful results.

Health surveillance

Health surveillance, which might include health questionnaires or lung function tests and chest x-rays, may sometimes be necessary, eg. for prolonged work and/or where exposure levels are high. An occupational health professional such as an occupational health doctor can provide further advice and help to implement a programme.