

### GENERAL GUIDANCE

### CONTROL APPROACHES

#### Introduction

There are two main factors which affect whether chemicals in the workplace are likely to harm health:

1. the type of damage the chemical causes and the amount needed to cause that damage;
2. how much is likely to get into the air and be breathed in or come into contact with the skin or eyes.

This in turn depends upon its dustiness or volatility. The Controlling Chemical Hazards guideline and web project uses this information to select one of four control approaches:

#### Control Approach 1: General Ventilation

This is the use of fresh air to dilute the chemical to levels that are no longer hazardous to health. Of course, if you depend on general ventilation, you always need it - even in very cold weather. This can clash with the requirement to keep the indoor workplace warm (Control Approaches 1 – Dilution Ventilation).

#### Control Approach 2: Engineering Control

This means using enclosures around the work area, and mechanical extraction of the contaminated air away from the worker. Common examples are exhaust ventilation on mud tanks, shaker units and in mud additive mixing areas. You need to maintain, examine and test them often enough to ensure that they are working. In practice, that usually means annually. Some engineering control systems need your attention much more frequently than this (GS Control Approach 2 – Local Ventilation).

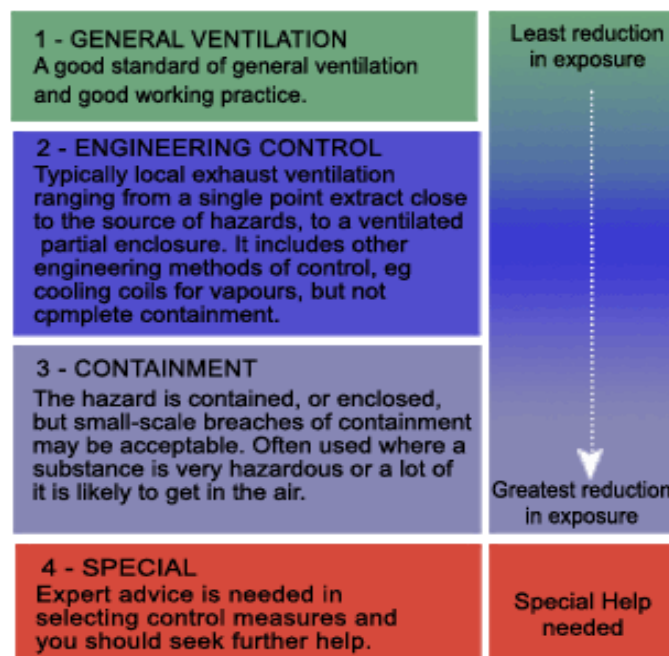
#### Control Approach 3: Containment

This means keeping the chemical or mixture in a closed system at all times. There is the potential for the chemical to escape only in sampling and maintenance activities, so you need to control these tasks - not covered by this guide - very carefully indeed. You need to maintain, examine and test them often enough to ensure they are working. In practice, that usually means annually. Some containment systems need your attention much more frequently than this (GS Control Approaches 3 - Containment).

#### Control Approach 4: Special

The chemicals in the process are very toxic or the way they are being used makes it difficult to predict how much contaminant will be generated in the workplace and you need to seek a consultant's advice on how to control the risks (GS Control Approaches 4 - Special).

In general the higher the potential risk to workers then a higher level of control approach is needed:



The Controlling Chemical Hazards guideline and web project provides advice where chemicals can cause harm if they contact the skin or eyes and on the need to control exposure through the use of respiratory protection which may be required in addition to one of the four main Control Approaches.

### **Control Approach S: Chemicals Causing Harm by Skin or Eye Contact**

This means the prescribed primary approach (i.e., 1 to 4) is not effective alone in controlling the risk to workers because the chemical can either be absorbed through the skin, is corrosive or harmful in some other way by direct skin or eye contact. Supplemental protective equipment (e.g. gloves, face shields, aprons) is required (GS Skin Contact).

### **Control Approach R: Respiratory Protective Equipment**

This means that the prescribed primary control approach (i.e., 1 to 4) is not effective alone in controlling the inhalation hazards associated with the use of a particular chemical. The use of NIOSH approved respiratory protective equipment is required (GS Respiratory Protective Equipment).

### **USING THE CONTROLLING CHEMICAL HAZARDS GUIDELINE AND WEB PROJECT**

In order for the system to be able to select the correct control approach you will need some basic information from a really up to date safety data sheet:

Section 9 of the data sheet is required to show:

- the boiling point, or
- the vapor pressure with the temperature (°C) at which this was measured.

Section 15 of the data sheet is required to show:

- the risk phrases. (Don't use the information in Section 2 or 3 of the data sheet. That refers to components of a mixture and can be misleading)

When you have followed this system through to the end, you will be able to print a Safety Protocol for Chemical Management for the specific work you plan to do that involves chemicals. It will provide:

- control guidance sheets that explain what level of control is right for you. These also list other simple practical steps to involving you keep to the law.
- a system record as evidence of how you made your risk assessment.