

# ILO TOOLKIT CONTROL SHEET R100

## Selection and Use of Respiratory protective Equipment (RPE)

### Scope

This control sheet is part of the ILO Chemical Control Toolkit and should be used when the toolkit identifies that respiratory protective equipment may be required. This sheet gives general advice on the selection and use of respiratory protective equipment.

### What is RPE

- RPE is specially designed equipment that is worn over the mouth and nose (or sometimes a larger part of the body such as the head) to help protect against breathing in harmful substances such as dusts, fumes and gases. There are two main types:
- Respirators work by filtering the air as you breath it in. They should not be worn in oxygen deficient areas or areas where the filtered air may still be dangerous. The acceptable concentration of oxygen is 19.5 – 22%.
- Breathing apparatus supplies breathable air from an independent source to the wearer.

### Selection of RPE

- RPE should be suitable for the substance being used, the task and the wearer. When possible you should ask you safety equipment supplier for help in choosing the correct RPE.
- Only use properly designed RPE. Look for compliance with a recognised standard such as an American, Australian, European or Japanese standard. Home-made RPE such as a scarf or handkerchief will not work.

### Suitability for substance

- You must select RPE with a filter designed to protect you against the substance you are exposed to. For example, a dust filter will not protect against the solvent vapour from a paint. A solvent vapour filter will not protect against the acid gases from a plating bath.
- You will have to be especially careful when selecting filters to protect you against gases and vapours as some of these only work for a small range of substances.

### Suitability for task

- You must ensure that the RPE is able to reduce the contamination in the air you breathe to a safe level. The amount of work the filter has to do is called its protection factor. A filter with a protection factor of 10 is able to reduce the concentration of hazardous material in the air you breath to one tenth of the concentration outside of the RPE. Different types of RPE have different protection factors.

- Filters will only work for a limited time. You will need to check with the supplier or in the instructions to find out how long you can wear the RPE before the filter needs changing.
- Only wear disposable RPE once.

## **Suitability for wearer**

- Several types of RPE, especially those that only fit onto the front of your face need to make good contact with your skin to work. If you have a beard or are not clean shaven they will not work and you may have to use another type of RPE such as one that covers all of your head.
- If you wear glasses or need to wear hearing protection or a hard hat, you should check that they do not interfere or get between the RPE and your skin.
- Different sizes of RPE are available. Different people will need different sizes or shapes of masks to work efficiently for them. To check that an RPE mask fits, put it on, cover the filter and breathe in. The mask should suck down and stay there for ten seconds whilst you hold your breath. If it doesn't, check it is fitted correctly and try again. If it still doesn't, try another size.
- If you need to wear RPE for a job, keep it on all the time. Even if you only take it off for a few seconds to speak, it will seriously reduce the protection it provides.

## **Maintenance**

- If your RPE has a replaceable filter, ensure that it is changed regularly before its workable life runs out.
- Reusable RPE requires cleaning with warm soapy water after each use.
- Check straps, face piece and seals for signs of deterioration. Replace if there are signs of damage or hardening

## **Storage**

- Store your RPE in a clean location where it won't get damaged
- Store rubber based RPE out of direct sunlight as it will shorten its usable life.

## **Training**

Ensure that you are taught or shown:

- How to fit the RPE correctly
- How to check for a face seal
- How often to change the filter
- How to check, maintain and store your RPE.