Department of **Local Government, Industry Regulation and Safety**

GOVERNMENT OF WESTERN AUSTRALIA

WorkSafe Western Australia

How to manage airborne contaminant risks in manufacturing

Work health and safety (WHS) laws require you, as the person conducting a business or undertaking (PCBU), to eliminate and minimise risks to the health and safety of your workers as much as you reasonably can.

To manage risks of harm in the manufacturing industry, you must first identify when and where workers may be exposed to dusts, gases, fumes, mists or vapours. For more information read our *How to identify airborne contaminants risks in manufactuing: Information sheet*.

Working with dusts, gases, fumes, mists or vapours? Put in place control measures to eliminate or manage your workers' exposure to airborne contaminants that can cause harm.

How to manage or control the risks

Once identified, the hierarchy of control measures can be used to manage risks. The hierarchy of control measures are:

Elimination

The most effective way to manage a risk is to completely remove the hazard from your workplace. This means eliminating the creation of airborne contaminants.

Sometimes, this is not possible, so you must minimise the risks of workers' exposure to airborne contaminants as much as you reasonably can.

Substition

Substitution controls involve replacing products and materials with ones that are less hazardous. Examples in manufacturing include:

- using ingredients or products that produce less dust or do not create fumes or vapours when mixed
- using ingredients or products that have a stabiliser to minimise fume and vapour production
- replacing high toxicity paints, glues and varnishes with lower toxicity options.

Engineering

Engineering controls use physical devices to change the characteristics of a task. The best engineering controls for your workplace will depend on the tasks your workers carry out. Engineering controls can include using:

- local exhaust ventilation or fume cupboards to stop dusts, fumes, and vapours from reaching a worker's breathing zone
- on-tool extraction systems
- nozzles that limit the spray direction of chemicals to avoid the workers' breathing zone
- automating tasks that generate airborne contaminants
- industrial vacuum cleaners with appropriate dust filtration during clean-up.

Administrative

Administrative controls provide additional protection after you have implemented substitution, isolation, and engineering controls. Administrative controls may include:

- shift rotation policies to minimise the time workers spend in an exposure area
- laundering contaminated work clothes at work
- designated change areas for changing out of personal protective equipment or dusty clothes
- policies and operating procedures for storing, cleaning, and maintaining equipment
- signs to alert workers to a hazard
- policies and procedures for keeping work areas clean.

You must have administrative policies in place and train your workers (and retain records of training) to help them understand and manage the risks of exposure to airborne contaminants that can cause your workers harm. You also need to supervise your workers to make sure they understand and follow your administrative policies.

Personal protective equipment

You should never rely solely on personal protective equipment (PPE), including respiratory protective equipment (RPE). PPE and RPE should only be used to supplement higher-level control measures, or when no other safety measures are available. It is important to make sure the PPE and RPE:

- is suitable for the task and to protect against the risk
- fits the worker who will be wearing it
- is clean and in good working order
- is stored appropriately.

You also need to provide training on using and maintaining PPE and make sure workers are using it correctly. Depending on the risk, RPE may have to be fit tested by a competent person such as an occupational hygienist. You can search for occupational hygienists near you on the Australian Institute of Occupational Hygienists' website.