

# Inhalable and respirable dust and fumes

All dust and fumes have the potential to damage the human body by normal breathing and inhalation. Minimisation of such products should be attempted by the design team but where impossible the following measures should be adopted by the PC's.

- All work activities which generate dust or fumes must have adequate suppression measures in place
- Inhalable dust is defined as airborne material which is capable of entering the nose and mouth during breathing
- Respirable dust means very fine airborne material which is capable of penetrating to the deepest part of the lung.
- All wood dust (including dust from composites like chipboards, MDF and fibre boards etc.) is hazardous to health: it can affect the nose, the respiratory system (and lungs) and the skin.
- Dust respirators will give no protection at all against gases and vapours (e.g. from paint spraying).
- Dust respirators filter the air breathed by the wearer to make it safe to breathe. They are not suitable for use where the amount of oxygen in the air may be low, such as in confined space working which will require breathing apparatus, which provides air from an independent source such as a cylinder.

When work activities are carried out, where dust or fume is likely to be generated, specific control measures and protective clothing/equipment must be used. These precautions should be selected with advice from specialist contractors, manufacturers, and COSHH assessments. Points to consider include;

- Type of material
- Work to be carried out
- Area to be worked in
- Period of exposure
- Position of worker i.e. bending down

In some cases, there will be a need for atmospheric sampling of respirable dust and fume. Results of this monitoring will assist in determining the degree of control measures required.

Following the assessment, detailed precautions must be established, and must include:

- The control measures



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The monitoring arrangements

- The supervision
- The maintenance arrangements

When considering the control measures the following hierarchy of controls must be considered:

- Designing out at the planning stage, the need for scabbling, drilling or high speed cutting of materials
- The use of respiratory protective equipment (RPE) as a last resort only
- Use of debris netting, hoarding, sheeting etc.
- All types of RPE restrict the wearer to some extent by making it more difficult to breathe and reducing visibility. This is why it is important to control exposure by other means such as extraction.
- Engineering controls such as LEV will protect everyone in the workplace - a respirator will only protect the person who wears it.
- Controlling dust or fume by using local exhaust ventilation (LEV) at the point of work.

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