Dust and fumes (Respiratory hazards)

Reason	Exposure to respiratory hazards (such as dusts, vapours or fumes) can lead to immediate and long-term health problems (such as breathing difficulties, asthma and cancer).
Outline	This talk covers the main hazards from dusts, vapours and fumes, and gives examples of control measures that should be taken.

Drill with dust extraction

Insulation dust

Vacuum the area rather than sweeping, where possible

You can leave a dusty place at any time, but respiratory diseases last forever.
You should be face-fit tested for the type of RPE you are going to use.

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Some sources of harmful dust and fumes

1. Cutting, sanding and grinding of construction materials will create harmful dust.
2. Welding and gas cutting of metals generates harmful fumes.
3. Work with old lead can expose you to lead oxide dust (white, powdery deposits) which is also harmful.
4. Burning off lead-based paints or heating lead creates harmful fumes.
5. Stripping out or other work involving fibrous materials (such as asbestos or fibreglass insulation) will release harmful dust into the air.

Health risks from breathing in dust or fumes

1. Silica dust from cutting or scabbling concrete or cutting bricks or stone can cause lung disease (for example, silicosis).
2. Dust from cutting or sanding hardwood (and some softwoods) can cause asthma and cancer.
3. Asbestos dust can cause cancer.
4. Welding fumes can result in metal fume fever, which has flu-like symptoms. Exposure to all welding fumes, including mild steel welding fumes, can cause lung cancer. There is also limited evidence linked to kidney cancer.
5. Breathing in the fumes from solvents and paint can lead to nausea, drowsiness, headaches and, eventually, unconsciousness and death in extreme cases.

Precautions

1. Work should be planned to avoid the need for on-site cutting or other dust-producing activities (for example, by ordering pre-cut paving slabs).
2. If elimination is not possible, harmful dust and fumes must be controlled so they are not breathed in.
3. Dust control techniques should be used, such as using plant and equipment with dust extraction devices, or using water suppression.
4. Where possible substances should be selected that do not give off harmful fumes and vapours (for example, 'low solvent' or 'solvent-free' paints).
5. If your employer has provided portable extraction equipment, use it.
6. Respiratory protective equipment (RPE) will often be necessary, even when other dust control techniques are being used. Make sure that you have the correct RPE for the activity and substance, and that you know how to use it.
7. If you are issued with RPE, you will need a face-fit test.
8. Consider the effects that your work may have on other people.

What work do you carry out that creates harmful dust or fumes?
What types of RPE are suitable for use with hazardous dust and fumes?
What is a face-fit test?
How do you inform others that you will be creating harmful dust or fumes?