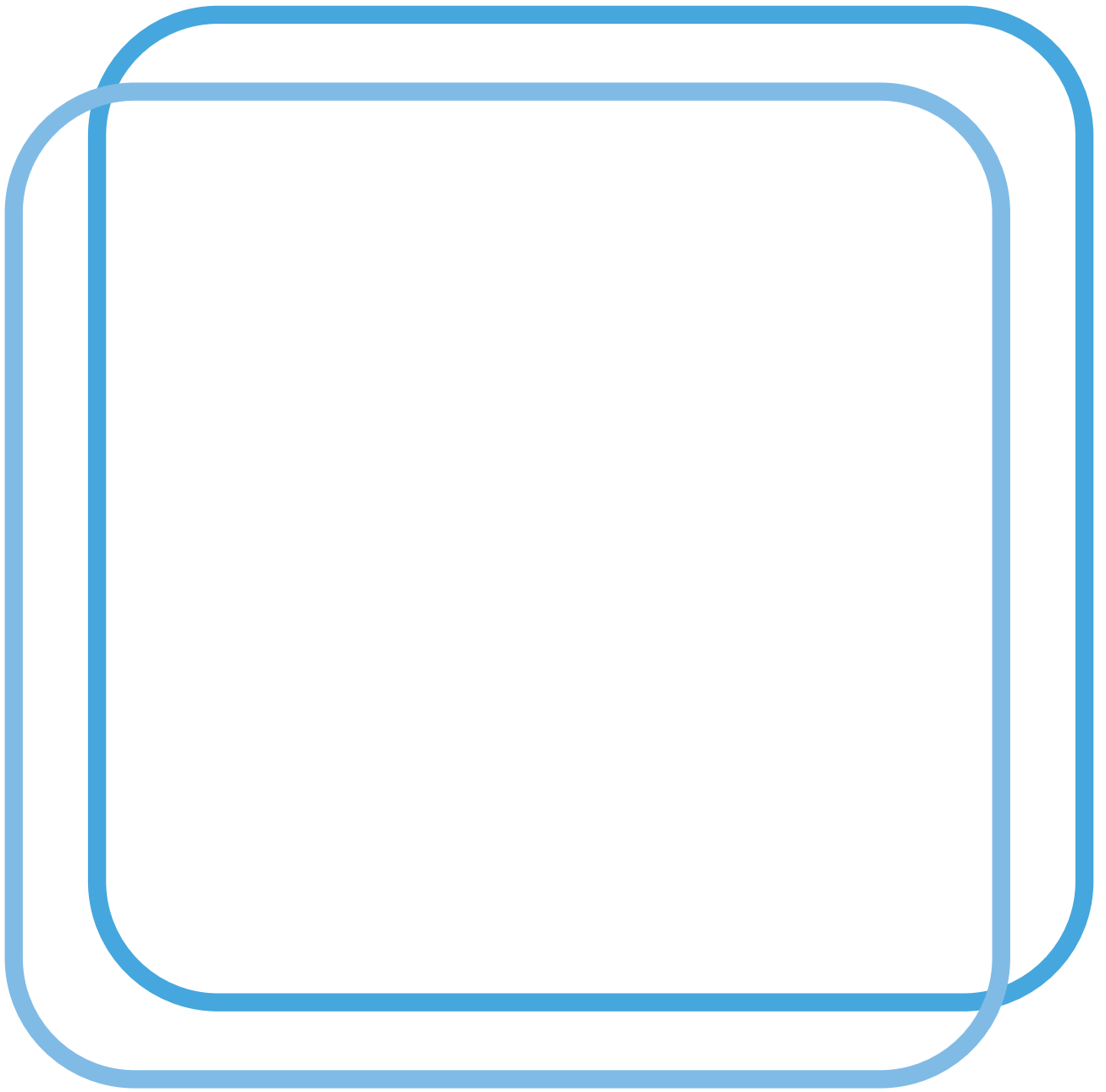


# Control of Substances Hazardous to Health



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## Introduction

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Using chemicals or other hazardous substances at work can put people's health at risk, so the law requires employers to control exposure to hazardous substances to prevent ill health.

Employers have a legal duty to protect employees and others who may be exposed by complying with the Control of Substances Hazardous to Health (COSHH) Regulations.

If you are an employer and you fail to adequately control hazardous substances, your employees or others may become ill. Effects arising from exposure to hazardous substances range from mild eye irritation to chronic lung disease and on occasions death, depending on the substance concerned.

### What is a hazardous substance?

A formal definition of a substance hazardous to health is given in regulation 2 of the COSHH Regulations and a simplified version of this is given below:

"Substances hazardous to health" means any substance which is:

- classified as being very toxic, toxic, harmful, corrosive or irritant. For commercially available substances and preparations this information is given on the label
- a substance for which the Health and Safety Commission has approved an occupational exposure standard. These are in the HSE publication "EH40" available from HSE Books

- a biological agent
- dust of any kind, when present at a substantial concentration in air
- any other substance not mentioned above, but which creates a similar hazard to any substance covered by any of the above points.

A 'Biological agent' is defined as:

- any micro-organism, cell culture, or human endoparasite, including any which have been genetically modified, which may cause any infection, allergy, toxicity or otherwise create a risk to human health

**What is not a substance hazardous to health under COSHH?**

COSHH applies to virtually all substances hazardous to health except:

- asbestos and lead which have their own regulations
- substances which are hazardous only because they are:
  - radioactive;
  - at high pressure;
  - at extreme temperatures;
  - have explosive or flammable properties (other regulations apply to these risks); or

- biological agents that are outside the employer's control, e.g. catching an infection from a workmate

For the vast majority of commercial chemicals, the presence (or not) of a warning label will indicate whether COSHH is relevant. For example, there is no warning label on ordinary household washing-up liquid, so if it's used at work you do not have to worry about COSHH; but there is a warning label on bleach, and so COSHH does apply to its use in the workplace.

**Where can I find hazardous substances?**

A wide range of substances can be hazardous to health and these may be found in a wide variety of work environments.

Chemical laboratories are obvious places to find substances hazardous to health but many commonly encountered substances are also hazardous, for example wood dust (particularly hardwoods), solvents used for cleaning, strong cleaning materials such as bleach or oven cleaner, some types of paint, solvent based glues, even correction fluid and the thinner used with it.

Exposure to substances hazardous to health may have short term effects (known as acute) for example strong acid in contact with the skin can rapidly give rise to chemical burns.

Long term exposure (known as chronic) can also have health effects, for example the liver damage which sometimes results from ingestion of significant quantities of ethanol over a period of years.

**On the following pages are the 8 steps that will help you assess the risks and implement any measures that may be needed to control COSHH risks within your business.**

## Step One Assess the risks

Your first step is to decide whether there is a problem with the substance(s) your company is using, or those to which your employees are incidentally exposed. This is called a risk assessment

### You must:

- identify the hazardous substances present in your workplace;
- consider the risks these substances present to people's health.

### Identify the hazardous substances present in your workplace.

Remember to think about substances which have been supplied to you; those produced by your work activity, e.g. fumes, vapours, aerosols, final products and waste materials; and those naturally or incidentally present in your workplace

### Consider the risks these substances present to people's health.

Assessing the risks involves making a judgement on how likely it is that a hazardous substance will affect someone's health. You need to ask yourself:

- How much of the substance is in use or produced by the work activity and how could people be exposed to it?
- Who could be exposed to the substance and how often? You must remember to include all groups of people who could come into contact with the substance, i.e. contractors, visitors and members of the public, as well as your employees. Do not forget those involved in cleaning and maintenance tasks - high exposures can occur during this type of work. Also, certain groups of people could suffer more from exposure than others, e.g. pregnant women, individuals with a suppressed immune system.
- Is there a possibility of substances being absorbed through the skin or swallowed (e.g. as a result of a substance getting into the mouth from contaminated hands during eating or smoking?)

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## Step One Assess the risks (cont'd)

### Who should do the assessment?

As the employer, legal responsibility for the assessment is yours, but others can do some or even most of the work of preparing it on your behalf. Except in very simple cases, whoever carries out the assessment will need to:

- have access to and understand the COSHH Regulations and relevant Approved Codes of Practice or to someone else who does;
- be able to get all the necessary information and have the knowledge and experience to make correct decisions about the risks and the actions needed

You and your employees have the most knowledge of what really happens in the workplace. Use this knowledge before deciding whether you need outside help. If there is no expertise available in the company to assess the more complex risks, you will need to get competent help, for example from a professionally qualified occupational hygienist, health and safety specialist or a trade association.

Your employees or their safety representatives or safety committee should be involved in assessments. They also must be informed of the results of the assessment.

## Step Two Decide what precautions are needed

If you identify significant risks, decide on the action you need to take to remove or reduce them to acceptable levels.

To help you decide whether risks are significant, it is suggested you compare any controls you already have with:

- Good practice advice from the Health & Safety Executive
- The results of monitoring workers' exposure compared with workplace exposure limits
- Good work practices and standards used by or recommended for your industry sector e.g. by trade associations, etc.

Remember to check that your control systems work and are effective;

### What further action should be taken?

If you decide that there are risks to health, you must take action to protect your employees (and others). Even if you judge that the control measures being used fully control the risks, you should still go through the remaining steps to ensure you are fully complying with COSHH. This will also help you ensure your controls stay effective.

## Step Three Prevent or adequately control exposure

### Prevent exposure

The COSHH Regulations require you to prevent exposure to substances hazardous to health, if it is reasonably practicable to do so. You might:

- change the process or activity so that the hazardous substance is not needed or generated;
- replace it with a safer alternative;
- use it in a safer form, e.g. pellets instead of powder

### Adequately control exposure

If prevention is not reasonably practicable, you must adequately control exposure. You should consider and put in place measures appropriate to the activity and consistent with the risk assessment including, in order of priority, one or more of the following:

- use appropriate work processes, systems and engineering controls, and provide suitable work equipment and materials e.g. use processes which minimise the amount of material used or produced, or equipment which totally encloses the process;
- control exposure at source (e.g. local exhaust ventilation), and reduce the number of employees exposed to a minimum, the level and duration of their exposure, and the quantity of hazardous substances used or produced in the workplace;
- provide personal protective equipment (e.g. face masks, respirators, protective clothing), but only as a last resort and never as a replacement for other control measures which are required.

### The meaning of adequate control

Under COSHH, adequate control of exposure to a substance hazardous to health means:

- applying the eight principles of good practice
- not exceeding the workplace exposure limit (WEL) for the substance (if there is one); and
- if the substance causes cancer in heritable genetic damage or asthma, reducing exposure to as low a level as is reasonably practicable.

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## Step Three Prevent or adequately control exposure (cont'd)

### The meaning of adequate control (cont'd)

HSC has established WELs for a number of substances hazardous to health. These are intended to prevent excessive exposure to specified hazardous substances by containing exposure below a set limit. A WEL is the maximum concentration of an airborne substance, averaged over a reference period, to which employees may be exposed by inhalation. If a WEL applies to a substance in your workplace you must have a system to accurately measure the exposure.

### Recording and reviewing the assessment

If you have five or more employees you must make and keep a record of the main findings of the assessment, either in writing or on computer. The record should be made as soon as practicable after the assessment and contain enough information to explain the decisions you have taken about whether risks are significant and the need for any control measures.

Also record the actions your employees and others need to take to ensure hazardous substances are adequately controlled. If you decide that there is no risk to health or the risk is trivial, you may need to record the identity of the substance, the control measures taken, and the fact that it poses little or no risk.

The assessment should be a 'living' document, which you revisit if circumstances change. It should definitely be reviewed when:

- there is reason to suspect the assessment is no longer valid;
- there has been a significant change in the work
- the results of monitoring employees exposure shows it to be necessary.

The assessment should state when the next review is planned. Records are mainly for your benefit and form part of your system to protect health, but others may want to see them, e.g. safety representatives, safety committees, health and safety inspectors.

## Step Four Ensure that control measures are used and maintained

### Using the controls

COSHH requires your employees to make proper use of control measures and to report defects. It is your responsibility to take all reasonable steps to ensure that they do so. This is why you must give your employees suitable training, information and appropriate supervision.

### Maintain controls

COSHH places specific duties on you to ensure that exposure controls are maintained, the objective being to ensure that every element of the control measure continues to perform as originally intended. This applies to items of equipment such as local exhaust ventilation and to systems of work which will have to be regularly checked to make sure that they are still effective.

## Step Five Monitor exposure

Under COSHH, you have to measure the concentration of hazardous substances in the air breathed in by workers where your assessment concludes that:

- there could be serious risks to health if control measures failed or deteriorated;
- exposure limits might be exceeded; or
- control measures might not be working properly.

However, you do not need to do this if you can demonstrate by another method of evaluation that you are preventing or adequately controlling employees' exposure to hazardous substances, e.g. a system which automatically sounds an alarm if it detects hazardous substances.

Air monitoring must be carried out when employees are exposed to certain substances and processes specified in Schedule 5 to the COSHH Regulations. Where it is appropriate to carry out personal air monitoring, the air to be sampled is the space around the workers face from where the breath is taken, i.e. the breathing zone.

You should keep and maintain a record of any exposure monitoring you carry out for at least five years. Where an employee has a health record, any monitoring results relevant to them as an individual must be kept with it. They should be allowed access to their personal monitoring record.

## Step Six Carry out appropriate health surveillance

COSHH requires you to carry out health surveillance in the following circumstances:

- where an employee is exposed to one of the substances listed in Schedule 6 to COSHH and is working in one of the related processes, e.g. manufacture of certain compounds of benzene, and there is a reasonable likelihood that an identifiable disease or adverse health effect will result from that exposure;
- where employees are exposed to a substance linked to a particular disease or adverse health effect and there is a reasonable likelihood, under the conditions of the work, of that disease or effect occurring and it is possible to detect the disease or health effect.

Health surveillance might involve examination by a doctor or trained nurse. In some cases trained supervisors could, for example, check employees skin for dermatitis, or ask questions about breathing difficulties where work involves substances known to cause asthma. You must keep a simple record (health record) of any health surveillance carried out. COSHH requires you to keep health records for at least 40 years.

## Step Seven Prepare plans and procedures to deal with accidents, incidents and emergencies

This will apply where the work activity gives rise to a risk of an accident, incident or emergency involving exposure to a hazardous substance, which goes well beyond the risks associated with normal day-to-day work. In such circumstances, (e.g. an accidental release of chlorine gas), you must plan your response to an emergency involving hazardous substances before it happens.

That means preparing procedures and setting up warning and communication systems to enable appropriate response immediately an incident occurs, and ensuring that information on your emergency arrangements is available to those who need to see it, including the emergency services. It also requires these 'safety drills' to be practised at regular intervals.

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## **Step Seven** Prepare plans and procedures to deal with accidents, incidents and emergencies (cont'd)

If any accident, incident or emergency occurs you must ensure that immediate steps are taken to minimise the harmful effects, restore the situation to normal and inform employees who may be affected. Only those staff necessary to deal with the incident may remain in the area and they must be provided with appropriate safety equipment.

However, you do not have to introduce these emergency procedures if;

- the quantities of substances hazardous to health present in your workplace are such that they present only a slight risk to your employees' health; and
- the measures you have put in place under Step 3 are already sufficient to control that risk.

## **Step Eight** Ensure that employees are properly informed, trained and supervised

COSHH requires you to provide your employees with suitable and sufficient information, instruction and training which should include:

- the names of the substances they work with or could be exposed to, the risks created by such exposure and access to any safety data sheets that apply to those substances;
- the main findings of your risk assessment;
- the precautions they should take to protect themselves and other employees;
- how to use personal protective equipment and clothing provided;
- results of any exposure monitoring and health surveillance (without giving individual employees' names);
- emergency procedures which need to be followed.

cont'd

## Step Eight

### Ensure that employees are properly informed, trained and supervised (cont'd)

You should update and adapt the information, instruction and training to take account of significant changes in the type of work carried out or work methods used. You should also ensure that you provide information etc. that is appropriate to the level of risk identified by the assessment and in a manner and form in which it will be understood by all relevant employees.

These requirements are vital. You must ensure your employees understand the risks from the hazardous substances they could be exposed to. Your control measures will not be fully effective if your employees do not know their purpose, how to use them properly or the importance of reporting faults.

## Further Advice and Information

If in doubt about any issues with COSHH visit the HSE website:

[www.coshh-essentials.org.uk](http://www.coshh-essentials.org.uk)

or contact South Holland District Council