

COSHH

a brief guide to
the regulations



What you need to know about the
Control of Substances Hazardous to Health Regulations 2002 (COSHH)

Why COSHH matters

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. They have to protect both employees and others who may be exposed by complying with the Control of Substances Hazardous to Health Regulations 2002 (COSHH).

COSHH is a useful tool of good management which sets eight basic measures that employers, and sometimes employees, must take. These are set out in this leaflet in a simple step-by-step approach which will help you to assess risks, implement any measures needed to control exposure and establish good working practices.

This leaflet is written mainly for employers to help them to meet their specific duties under COSHH. But it will also be useful to safety representatives, health and safety professionals and anyone interested in health and safety issues.

If you as an employer, fail to

adequately control hazardous substances your employees or others may become ill. Effects from hazardous substances range from mild eye irritation to chronic lung disease or, on occasions, death (see opposite). This may:

- result in lost productivity to your business;
- leave you liable to enforcement action, including prosecution under the COSHH Regulations;
- result in civil claims from your employees.

There can be positive benefits to your business from carefully following through the requirements of COSHH:

- improved productivity as a result of using more effective controls (eg less use of raw material);
- improved employee morale;
- better employee understanding and compliance with health and safety requirements.

Details of all publications mentioned in this leaflet may be found in the reference section at the end of this leaflet. All publication titles are in italics.

Hazardous substances

Hazardous substances include:

- substances used directly in work activities (eg adhesives, paints, cleaning agents);
- substances generated during work activities (eg fumes from soldering and welding);
- naturally occurring substances (eg grain dust);
- biological agents such as bacteria and other micro-organisms.

Where are hazardous substances found?

In nearly all work environments, for example:

- factories;
- shops;
- mines;
- farms;
- laboratories;
- offices.

Examples of the effects of hazardous substances

include:

- skin irritation or dermatitis as a result of skin contact;
- asthma as a result of developing allergy to substances used at work;

- losing consciousness as a result of being overcome by toxic fumes;
- cancer, which may appear long after the exposure to the chemical that caused it;
- infection from bacteria and other micro-organisms (biological agents).

What COSHH requires

To comply with COSHH you need to follow these eight steps:

Step 1 *...page 6*

Assess the risks to health arising from hazardous substances used in or created by your workplace activities.

Step 2 *...page 8*

Decide what precautions are needed. You must not carry out work which could expose your employees to hazardous substances without first considering the risks and the necessary precautions, and what else you need to do to comply with COSHH.

Step 3 *...page 10*

Prevent or adequately control exposure. You must prevent your employees being exposed to hazardous substances. Where preventing exposure is not

reasonably practicable, then you must adequately control it. The advice in this leaflet, and in the other guidance it refers to, will help you to make correct assessments and to put the appropriate controls into place.

Step 4 ...page 12

Ensure that control measures are used and maintained properly and that safety procedures are followed.

Step 5 ...page 12

Monitor the exposure of employees to hazardous substances, if necessary.

Step 6 ...page 13

Carry out appropriate health surveillance where your assessment has shown this is necessary or where COSHH sets specific requirements.

Step 7 ...page 14

Prepare plans and procedures to deal with accidents, incidents and emergencies involving hazardous substances, where necessary.

Step 8 ...page 15

Ensure employees are properly informed, trained and supervised.

What is a substance hazardous to health under COSHH?

Under COSHH there are a range of substances regarded as hazardous to health:

Substances or mixtures of substances classified as dangerous to health under the Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 (CHIP). These can be identified by their warning label and the supplier must provide a safety data sheet for them. Many commonly used dangerous substances are listed in the HSE publication *Approved Supply List. Information approved for the classification and labelling of substances and preparations dangerous for supply*, as part of the CHIP package. Suppliers must decide if preparations and substances that are not in the *Approved Supply List* are dangerous, and, if so, label them accordingly.

Substances with occupational exposure limits, these are listed in the HSE publication *Occupational exposure limits*.

Biological agents (bacteria and other micro-organisms), if they are directly connected with the work, such as with farming, sewage treatment, or healthcare, or if the exposure is incidental to the work (eg exposure to bacteria from an air-conditioning system that is not properly maintained).

Any kind of dust if its average concentration in the air exceeds the levels specified in COSHH (eg 10 mg/m³ for inhalable dust).

Any other substance which creates a risk to health, but which for technical reasons may not be specifically covered by CHIP including: asphyxiants (ie gases such as argon and helium, which, while not dangerous in themselves, can endanger life by reducing the amount of oxygen available to breathe), pesticides, medicines, cosmetics or substances produced in chemical processes.

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; or have explosive or flammable properties (other regulations apply to these risks);
- biological agents that are outside the employer's control, eg catching an infection from a workmate. (If in doubt, please contact HSE for advice.)

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.

Step 1

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. Look at the list on pages 4-5. Remember to think about substances which have been supplied to you; those produced by your work activity, eg fumes, vapours, aerosols, final products and waste materials; and those naturally or incidentally present in your workplace, eg infectious agents carried by farm animals.

Other sources of information which will help you identify hazardous substances are:

- trade associations;
- other employers in the same business;

- HSE guidance, such as *Occupational exposure limits*;
- HSE publication *Categorisation of biological agents according to hazard and categories of containment* (available on the HSE website);
- HSE publication *CHIP Approved Supply List*;
- the Internet.

Consider the risks these substances present to people's health. Assessing the risk 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? For supplied substances HSE has developed a generic risk assessment guide to help. It uses information on hazard, amount used and simple definitions of dustiness for solids or volatility for liquids. The guide is called *COSHH essentials: easy steps to control chemicals*. The guide also helps you with the next two steps – deciding what action you need to take to control risks and controlling

exposure. As well as the published version *COSHH essentials* can be found free on the Internet at www.cosh-essentials.org.uk where you can follow the steps quickly and easily on-line.

■ 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, ie 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, eg pregnant women, individuals with a suppressed immune system.

■ Is there a possibility of substances being absorbed through the skin or swallowed (eg as a result of a substance getting into the mouth from contaminated hands, during eating or smoking)? Are there risks to your employees at other locations, if they work away from your main workplace? See the HSE guidance *Working alone in safety* for solitary workers away from their home base.

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 have valuable contributions to make. They must also be informed of the results of the assessment.

Step 2

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, we suggest you compare any controls you already use with:

- Advice from *COSHH essentials: easy steps to control chemicals*.

This guide is for supplied substances. It takes you through a simple risk assessment and identifies what is needed to control exposure. For a number of common industrial operations it provides detailed advice on control measures. If the controls you have in place are the same or more stringent than those recommended by the guide, then you are likely to be taking the right type of action.

- The results of monitoring workers' exposure with occupational exposure limits (OELs) published in *Occupational exposure limits*. See Step 3 for information on adequate control and for information about OELs.

- Good work practices and standards used by, or recommended for your industry sector, eg trade associations, Health and Safety Commission industry advisory committees. Also check your chemical supplier or manufacturer's advice on storage, use and disposal.

Remember to:

- check that your control systems work, and are effective;
- consider whether the substance could be absorbed through the skin. Where this could occur, a biological monitoring programme may help you to assess the risks. The HSE publication *Biological monitoring in the workplace: a guide to its practical application to chemical exposure*, sets out when biological monitoring is useful and the procedures for setting up an effective programme.

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') health. The rest of the steps in this booklet will help you.

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.

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 *COSHH Approved Code of Practice* (ACOP) provides more information on what the record of the main findings of the assessment should contain (see Further advice and information on page 16).

If a generic risk assessment using *COSHH essentials* has been carried out, the completed forms or print outs could be used as a basis for the record of the risk assessment.

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 (see Step 5) 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, eg safety representatives, safety committees, health and safety inspectors.

Step 3

Prevent or adequately control 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**, eg pellets instead of powder.

The HSE guidance booklet *7 steps to successful substitution of hazardous substances* advises on how to replace hazardous substances with safer alternatives.

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 eg use processes which minimise the amount of material used or produced, or equipment which totally encloses the process;

- **control exposure at source**, (eg local exhaust ventilation), and reduce to a minimum the number of employees exposed, the level and duration of their exposure, and the quantity of hazardous substances used or produced in the workplace;
- **provide personal protective equipment**, (eg face masks, respirators, protective clothing) but only as a last resort and never as a replacement for other control measures which are required.

The *COSHH essentials: easy steps to control chemicals* guide gives advice on adequate control measures for supplied chemicals. To get the best from the guide it is important that you work through the risk assessment process it outlines, to arrive at the right measures for your chemicals and tasks.

For carcinogens (substances which may cause cancer) or mutagens (substances which may

cause heritable genetic damage) special requirements apply. These are set out in the appendix on Carcinogens in the *COSHH ACOP*.

Adequate control. Under COSHH, adequate control means reducing exposure to a level that most workers could be exposed to, day after day at work, without adverse effects on their health. For a number of commonly used hazardous substances the Health and Safety Commission has assigned an occupational exposure limit (OEL) to help define adequate control.

There are two types of OEL, occupational exposure standards (OESs) and maximum exposure levels (MELs). A list of current OELs can be found in *Occupational exposure limits*.

■ **Occupational exposure standards.** An OES is set at a level that is not likely to damage the health of workers exposed to it, by inhalation, day after day (based on current scientific knowledge).

For substances with an OES, you should reduce exposure to comply with that OES. However,

under COSHH you will still be considered to have adequate control if the OES is exceeded, provided you identify why it has been exceeded and take appropriate steps to reduce exposure as soon as is reasonably practicable.

■ **Maximum exposure limits.**

MELs are set for substances which may cause the most serious health effects such as cancer and occupational asthma, and for which it is not possible to set an OES. For substances with MELs you are required to reduce exposure so far as is reasonably practicable and, in any case, below the MEL.

Skin absorption. Some substances can damage the skin itself while others can readily penetrate it, become absorbed into the body and cause harm. So you must consider the need to protect skin in deciding on control measures. The guide *COSHH essentials: easy steps to control chemicals*, contains useful advice on skin protection.

Step 4**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 (see Step 8 for a more detailed explanation).

Maintain controls. COSHH places specific duties on you to ensure that controls are kept in efficient working order and good repair. Engineering controls and respiratory protective equipment have to be examined and, where appropriate, tested at suitable intervals. COSHH sets specific intervals between examinations for local exhaust ventilation equipment, and you must retain records of examinations and tests carried out (or a summary of them), for at least five years.

Step 5**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;
- control measures might not be working properly.

However, you do not need to do this if you can show by another method of evaluation that you are preventing or adequately controlling employees' exposure to hazardous substances, eg a system which automatically sounds an alarm if it detects hazardous substances. The *COSHH ACOP* provides examples of other alternative methods of evaluation.

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 worker's face from where the breath is taken, ie 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 (required where they are under health surveillance, see Step 6), any monitoring results relevant to them as an individual must be kept with their health record. They should be allowed access to their personal monitoring record.

You can find more information on monitoring in the HSE guidance *Monitoring strategies for toxic substances*.

Step 6

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, eg 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 (see the questionnaire in the HSE publication *Preventing asthma at work. How to control respiratory sensitisers*). You must keep a simple record (a 'health record') of any health surveillance carried out. COSHH requires you to keep health records for at least 40 years. (If a business ceases to trade, its health records should be

offered to HSE for safe keeping.)

For further information you can refer to the HSE guidance *Health surveillance under COSHH: guidance for employers*. Biological monitoring can also have a role in health surveillance. You can find further information on setting up a biological monitoring programme in the HSE publication *Biological monitoring in the workplace: a guide to its practical application to chemical exposure*.

Step 7

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, 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 an appropriate response immediately any 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.

If an 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 sufficient to control that risk.

But, the requirements described in Step 7 must be complied with in full where either carcinogens, mutagens or biological agents are used.

Step 8

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 substances they work with or could be exposed to and 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 employee's names);
- emergency procedures which need to be followed.

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 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, contact your local HSE office (the address is in the phone book). The staff there can refer you to the appropriate inspector or the environmental health officer at your local authority.

COSHH publications

The Control of Substances Hazardous to Health Regulations 2002 SI 2002/2677

Stationery Office 2002 ISBN 0 11 042919 2

Control of substances hazardous to health. Control of Substances Hazardous to Health Regulations 2002. Approved Code of Practice and guidance L5

HSE Books 2002 ISBN 0 7176 2534 6

Health surveillance under COSHH: Guidance for employers

HSE Books 1990 ISBN 0 7176 0491 8
(publication currently under revision)

COSHH essentials: easy steps to control chemicals. Control of Substances Hazardous to Health Regulations HSG193

HSE Books 1999 ISBN 0 7176 2421 8

(an electronic version is available at www.coshh-essentials.org.uk)

Related publications

The idiot's guide to CHIP 3: Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 Leaflet INDG350

HSE Books 2002 (single copy free or priced packs of 5 ISBN 0 7176 2333 5)

Approved supply list. Information approved for the classification and labelling of substances and preparations dangerous for supply. Chemicals (Hazard Information and Packaging for Supply) Regulations 2002. Approved list. L129 (Seventh edition)

HSE Books 2002 ISBN 0 7176 2368 8

Approved classification and labelling guide. Chemicals (Hazard Information and Packaging for Supply) Regulations 2002. Guidance on Regulations L131 (Fifth edition)

HSE Books 2002 ISBN 0 7176 2369 6

Second supplement to: Categorisation of biological agents according to hazard and categories of containment (Fourth edition 1995)

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Biological monitoring in the workplace: A guide to its practical application to chemical exposure HSG167
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Biological monitoring in the workplace: information for employees on its application to chemical exposure Leaflet INDG245
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7 steps to successful substitution of hazardous substances HSG110
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The maintenance, examination and testing of local exhaust ventilation HSG54 (Second edition)
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HSE Books 1998 ISBN 0 7176 1537 5 (publication currently under revision)

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INDG136rev2 04/03 C2500

Printed and published by
the Health and Safety Executive

*Printed on paper containing a minimum of
75% post-consumer waste*