

COSHH: A brief guide to the Regulations

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



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

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) (as amended).

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 with 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.

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. 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.

Effects of hazardous substances

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	Assess the risks	Assess the risks to health from hazardous substances used in or created by your workplace activities.	<i>page 4</i>
Step 2	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.	<i>page 5</i>
Step 3	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.	<i>page 6</i>
Step 4	Ensure that control measures are used and maintained	Ensure that control measures are used and maintained properly and that safety procedures are followed.	<i>page 8</i>
Step 5	Monitor the exposure	Monitor the exposure of employees to hazardous substances, if necessary.	<i>page 8</i>
Step 6	Carry out appropriate health surveillance	Carry out appropriate health surveillance where your assessment has shown this is necessary or where COSHH sets specific requirements.	<i>page 9</i>
Step 7	Prepare plans and procedures to deal with accidents, incidents and emergencies	Prepare plans and procedures to deal with accidents, incidents and emergencies involving hazardous substances, where necessary.	<i>page 9</i>
Step 8	Ensure employees are properly informed, trained and supervised	You should provide your employees with suitable and sufficient information, instruction and training.	<i>page 10</i>

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 workplace exposure limits are listed in the HSE publication *EH40/2005 Workplace 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.
- 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**

**Step 2
Decide what
precautions are
needed**

**Step 3
Prevent or
adequately control
exposure**

**Step 4
Ensure that
control measures
are used and
maintained**

**Step 5
Monitor exposure**

**Step 6
Carry out
appropriate health
surveillance**

**Step 7
Prepare plans and
procedures
to deal with
accidents,
incidents
and emergencies**

**Step 8
Ensure that
employees are
properly informed,
trained and
supervised**

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 page 3. 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 website (www.hse.gov.uk) and HSE guidance, such as *EH40/2005 Workplace exposure limits*;
- 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.coshh-essentials.org.uk, where you can follow the steps quickly and easily online.
- 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:

- Good practice advice from HSE (see www.hse.gov.uk), including 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. It provides detailed advice on control measures for a number of common industrial operations. 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 workplace exposure limits (WELs) published in *EH40/2005 Workplace exposure limits*. See Step 3 for information on adequate control.
- Good work practices and standards used by or recommended for your industry sector, eg trade associations, Health and Safety Commission (HSC) 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 11).

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

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, eg pellets instead of powder.

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

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 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 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 (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 and free website (www.coshh-essentials.org.uk) give advice on adequate control measures for supplied chemicals and a number of common industrial operations. For supplied chemicals it is important that you work through the risk assessment process it outlines, to arrive at the right measures for your chemicals and tasks.

Meaning of 'adequate control'

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

- applying the eight principles of good practice set out in Schedule 2A to COSHH;
- not exceeding the workplace exposure limit (WEL) for the substance (if there is one); and
- if the substance causes cancer, heritable genetic damage or asthma, reducing exposure to as low a level as is reasonably practicable.

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. WELs are listed in *EH40/2005 Workplace exposure limits*. Correctly applying the principles of good practice will mean exposures are controlled below the WEL. Advice on applying the principles can be found in the COSHH ACOP.

Adequate control of carcinogens, mutagens and asthmagens

COSHH acknowledges the particular hazards of substances which cause cancer, heritable genetic damage or asthma by requiring that exposure to these is reduced to as low a level as is reasonably practicable. The HSE website contains guidance on suitable controls.

For carcinogens (substances which may cause cancer) or mutagens (substances which may cause heritable genetic damage) special requirements apply. These are in regulation 7(5) of COSHH and explained in Appendix 1 of the COSHH ACOP.

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 when 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 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. Respiratory protective equipment should also 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; or
- 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 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 sufficient to control that risk.

However, 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 the 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 employees' 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

Control of substances hazardous to health. The Control of Substances Hazardous to Health Regulations 2002 (as amended). Approved Code of Practice and guidance L5 (Fifth edition) HSE Books 2005 ISBN 0 7176 2981 3

COSHH essentials: Easy steps to control chemicals. Control of Substances Hazardous to Health Regulations HSG193 (Second edition) HSE Books 2003 ISBN 0 7176 2737 3 (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

EH40/2005 Workplace exposure limits: Containing the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations 2002 (as amended) Environmental Hygiene Guidance Note EH40 HSE Books 2005 ISBN 0 7176 2977 5

Biological monitoring in the workplace: A guide to its practical application to chemical exposure HSG167 HSE Books 1997 ISBN 0 7176 1279 1

Biological monitoring in the workplace: Information for employees on its application to chemical exposure Leaflet INDG245 HSE Books 1997 (single copy free or priced packs of 15 ISBN 0 7176 1450 6)

Seven steps to successful substitution of hazardous substances HSG110 HSE Books 1994 ISBN 0 7176 0695 3

Maintenance, examination and testing of local exhaust ventilation HSG54 (Second edition) HSE Books 1998 ISBN 0 7176 1485 9

Respiratory Protective Equipment at work: A practical guide HSG53 (Third Edition) HSE Books 2005 ISBN 0 7176 2904 X

Monitoring strategies for toxic substances HSG173 HSE Books 1997 ISBN 0 7176 1411 5

Preventing asthma at work. How to control respiratory sensitisers L55 HSE Books 1994 ISBN 0 7176 0661 9

Guidance on working with dangerous pathogens in a variety of workplaces, including laboratories and healthcare premises, has been produced by the Advisory Committee on Dangerous Pathogens (ACDP), and is available on the HSE website at: www.hse.gov.uk/aboutus/meetings/acdp/index.htm

Further information

HSE priced and free publications are available by mail order from HSE Books, PO Box 1999, Sudbury, Suffolk CO10 2WA Tel: 01787 881165 Fax: 01787 313995 Website: www.hsebooks.co.uk (HSE priced publications are also available from bookshops and free leaflets can be downloaded from HSE's website: www.hse.gov.uk.)

For information about health and safety ring HSE's Infoline Tel: 0845 345 0055 Fax: 0845 408 9566 e-mail: hseinformationservices@natbrit.com or write to HSE Information Services, Caerphilly Business Park, Caerphilly CF83 3GG.

The Stationery Office publications are available from The Stationery Office, PO Box 29, Norwich NR3 1GN Tel: 0870 600 5522 Fax: 0870 600 5533 e-mail: customer.services@tso.co.uk Website: www.tso.co.uk (They are also available from bookshops.)

This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

This leaflet is available in priced packs of 10 from HSE Books, ISBN 0 7176 2982 1. Single free copies are also available from HSE Books.

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