

**Health & Safety Guidance
Children's Services Department**

**CONTROL OF SUBSTANCES
HAZARDOUS TO HEALTH
(COSHH)**

Review Date	Changes Required	Name & Position

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Control of Substances Hazardous to Health (COSHH)

Introduction

Chemicals or other hazardous substances can put people's health at risk. The law requires employers to control exposure to hazardous substances to protect both employees and others, e.g. pupils, who may be exposed from the activities.

Legislation

The Control of Substances Hazardous to Health (COSHH) Regulations of 2002, is the main piece of legislation covering control of the risks to employees and other people arising from exposure to harmful substances generated out of or in connection with any work activity under the employer's control. The main objective of the regulations is to reduce occupational ill health by setting out a simple framework for controlling hazardous substances in the workplace.

Duties

As with all other regulations building on the Health and Safety at Work etc. Act, legal duties under COSHH are laid primarily on employers and it is their duty to see that proper systems of work and management are in place. In education, the employer will be the Local Authority, the Governing Body or the Academy or Multi Academy Trust Board. Many of the duties that employers owe to their employees extend to non-employees, such as pupils, who may be affected by the employer's activity. In particular, pupils and other non-employees need to be given information and training on how to deal with hazardous substances they may encounter in the course of their work or study. In education establishments the Headteacher or Centre Manager is delegated the task of ensuring that the legal obligations placed on the employer are met and the Local Authority expects that they will put in place suitable systems to ensure this duty is met.

Duties on employees include making proper use of any control measures, following safe systems of work, abiding by local rules and reporting defects in safety equipment. Non-employees have no specific duties under COSHH but the requirements of the Health and Safety at Work etc. Act do apply, forbidding the misuse of anything provided in the interests of health, safety or welfare.

What COSHH Requires

Complying with COSHH involves:

- assessing the risks to health to health arising from hazardous substances at work and deciding what precautions are needed,
- preventing or adequately controlling exposure,
- ensuring that control measures are used, maintained, examined and tested,
- if necessary, monitoring exposure and carrying out health surveillance and
- ensuring that employees are properly informed, trained and supervised.

Hazardous Substances

In terms of the Regulations, a **substance hazardous to health** is: -

- substances used directly in work activities, e.g. adhesives, paints, cleaning agents
- product (mixture of substances)
- mixture of products
- chemical
- by-product (created during a process/work activity i.e. solder/welding fumes, wood dust)
- naturally occurring substances (flour etc)
- biological agents such as bacteria and other micro-organisms, e.g. blood, bacteria.

Within the Regulations a hazardous substance is one which:

- displays one or more chemical hazard symbols and phrases (see Appendix1)
- has been assigned a Workplace Exposure Limit (WEL)* (listed on the substance health and safety data sheet)
- is a biological agent or micro-organism which can cause harm
- (e.g. legionella)
- any kind of dust in concentrations of 10 mg/m³ or more as a time weighted average over an 8 hour period or:
- 4mg/m³, as a time weighted average over an 8 hour period, of respirable dust:

COSHH applies to virtually all substances classified as hazardous to health **except:**

- Asbestos
- Lead
- Radio-active materials
- Substances at high pressure and/or extreme temperatures.

These substances are covered by other specific legislation.

For the vast majority of commercial chemicals, the presence (or not) of a warning label will indicate whether COSHH is relevant. For example, household liquid soap doesn't have a warning label but bleach does – so COSHH applies to bleach but not liquid soap when used at work.

No work should be carried out that is liable to expose anyone to substances hazardous to health unless an assessment of the risks has been carried out.

Guidance on Assessing Substances

Step 1

Identify the hazardous substances used and record them.

A systematic identification of all the substances used in the workplace needs to be undertaken and then should be recorded on the inventory at appendix 2. You also need to consider the substances that are created as a result of a work activity, e.g. wood dust.

Obtain information about the substance – check the label, obtain the Safety Data Sheet from the supplier, speak with others who have experience handling the substance, e.g. colleagues, trade associations, obtain information from the internet.

Labels – suppliers of chemicals are required to label their products with hazard symbols, warnings and safety advice if a chemical is dangerous. Manufacturers may also include 'instructions for use' either on the label, or on a leaflet supplied with the product. These hazard symbols are shown at Appendix 1.

Safety Data Sheets - suppliers must provide safety data sheets for hazardous chemicals used in the workplace. This is a detailed information sheet provided by chemical suppliers to their customers so that workers and the environment can be properly protected. It is not confidential and employees and their representatives should be provided with copies on request. If a safety data sheet isn't provided with the chemical, employers should ask the supplier to provide one. Safety data sheets provide more technical and detailed information about the chemical and more information about how to use it safely and how to deal with emergencies.

Step 2

Assess the risks to health arising from using the substances.

Consider the risks the substance presents 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.

Ask yourself:

- How much of the substance is used or produced and how could people be exposed to it (see 'entry or exposure routes' page 7)
- Who could be exposed to the substance and how often? Consider employees, pupils, contractors, visitors, members of the public. Certain groups could suffer more from exposure than others, e.g. pregnant women, individuals with a suppressed immune system, people with respiratory problems.
- How is the substance used? Is there a possibility for example 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)? Is a vapour produced by spraying that is hazardous which wouldn't be produced if the product was brushed on; is the product used in a diluted or concentrated form.
- How is the substance stored?

Step 3

Decide what precautions are needed.

Employers must ensure that the exposure of employees or others to hazardous substances is either **prevented or adequately controlled**. If it is reasonably practicable, exposure must be prevented by changing the process or activity so that the hazardous substance is not required or generated; or replacing it with a safer alternative; or using it in a safer form.

If prevention/elimination is not reasonably practicable, you must adequately control exposure. The following control measures which might be appropriate are listed in order of priority:

- substitution by a less hazardous substance or by the same substance in a less hazardous form (e.g. *use of water based paint rather than solvent based paint*)
- total enclosure of the process/system
- minimise generation of the hazardous dust, fumes etc (*handworking of material rather than machining*)
- suitable ventilation, either general or local exhaust (e.g. *fume and dust extraction in design and technology*)
- reduction of the period of exposure or the number of people exposed
- provision of suitable personal protective equipment – always a last resort.

Adequate control means reducing exposure to a level that most employees/pupils could be exposed to, day after day at work/school, without adverse effects on their health. There are established exposure limits (WEL's) 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 level. These are detailed in EH40 which can be viewed on the following link – <http://www.hse.gov.uk/pubns/priced/eh40.pdf>

If you are in any doubt as to whether existing or proposed controls are suitable you should contact your Health and Safety Consultant for further advice.

Step 4

Ensure that control measures are used and maintained.

Employees are required to make proper use of control measures and to report defects. Employers must take all reasonable steps to ensure that they do so. Suitable training, information and appropriate supervision are methods by which this can be achieved.

Employers must 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, for example, local exhaust ventilation in schools such as fume cupboards or dust extraction must be tested every 14 months.

Step 5

Monitor exposure.

The concentrations of hazardous substances in the air that workers might be exposed to should be measured in certain circumstances e.g. where there could be serious risks to health if control measures failed or deteriorated.

Encouraging employees to report any problems they have implementing control measures will form part of this process.

Step 6

Carry out appropriate health surveillance.

Where the assessment has shown this is necessary (COSHH sets specific requirements), health surveillance must be carried out. This might involve examination by a doctor or trained nurse. Simple records must be kept of any health surveillance carried out and the health record kept for at least 40 years.

Step 7

Ensure that employees are properly informed, trained and supervised.

This should include:

- the names of the substances they will 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 the COSHH assessments;
- the precautions that need to be taken to protect themselves and others;
- how to use personal protective equipment and clothing provided;
- results of any exposure monitoring and health surveillance;
- emergency procedures that need to be followed where necessary.

You must ensure that employees and pupils understand the risks from the hazardous substances to which they could be exposed. 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 hazards. The COSHH assessments should be communicated to and readily available at all times to the employees affected.

Recording and Reviewing the Assessment

A record should be kept of the main findings of the assessment. The record should be made as soon as practicable after the assessment and contain enough information to explain the decisions taken about whether the risks are significant and the need for any control measures. Record the actions your employees and others need to take to ensure hazardous substances are adequately controlled. See Appendix 3.

Who Should Do the Assessment?

Employers are legally responsible for the assessment but others can do the assessment on behalf of the employer.

Whoever carries out the assessment should:

- have adequate knowledge, training and expertise in understanding hazard and risk;
- know how the work activity uses or produces substances hazardous to health;
- have the ability and the authority to collate all the necessary relevant information; and
- have the knowledge, skills and experience to make the right decisions about the risks and the precautions that are needed.

Entry or Exposure Routes

Injury can be caused by chemicals only if they reach sensitive parts of the body at a sufficiently high concentration and for a sufficiently long time (high enough exposure).

Major routes of exposure are through the skin (absorption/Injection), through the lungs (inhalation) or through the gastrointestinal tract (ingestion).

Skin absorption

This is the least likely route of penetration since the natural thickness of the skin plus its natural coating of grease and sweat provide some protection against chemicals. However, some materials are capable of penetrating intact, healthy skin e.g. organic mercury compounds, some steroid hormones.

Injection

The natural protection of the skin may also be bypassed through cuts, abrasion or puncture wounds e.g. needle-stick injury.

Inhalation

Gases and vapours, aerosols and fumes are readily inhaled and may cause harm (including asphyxiation) anywhere in the respiratory system and may also be absorbed into the bloodstream but inhalation of particles depends upon their size and shape – the smaller the particle, the further into the respiratory tract it can go.

Large particles are filtered off in the nose. Smaller particles, or those breathed in by the mouth, settle on the walls of the upper respiratory tract or throat and are coughed up and either ejected or swallowed. If swallowed, they may enter the gut and cause damage as if they had been ingested. The smallest particles of dust and fibres can be inhaled down into the lungs where they can cause local damage, sometimes by interaction with the cells in the lungs which normally remove bacteria. These particles may also be absorbed into the bloodstream.

Ingestion

This involves the substance being swallowed and entering the gastrointestinal tract. Substances can be swallowed after they have got on to hands which are then used to eat or smoke without being washed. Substance can also be ingested if they have been decanted from their original containers into for example empty food containers or drink bottles. This practice is highly dangerous and must never happen. Large airborne particles can also end up being swallowed rather than ingested.

****Workplace Exposure Limits***

WELs are British occupational exposure limits and are set in order to help protect the health of workers. WELs are concentrations of hazardous substances in the air, averaged over a specified period of time, referred to as a time-weighted average (TWA). Two time periods are generally used:

- long-term (8 hours); and
- short-term (15 minutes).

Short-term exposure limits (STELs) are set to help prevent effects such as eye irritation, which may occur following exposure for a few minutes.

CLP hazard pictograms



Explosive (Symbol: exploding bomb)



Flammable (Symbol: flame)



Oxidising (Symbol: flame over circle)



Corrosive (Symbol: Corrosion)



Acute toxicity (Symbol: Skull and crossbones)



Hazardous to the environment (Symbol: Dead tree and fish)

You'll see that the old 'harmful/irritant' symbol shown directly below is missing. This has been replaced by the exclamation mark pictogram:



Health hazard/Hazardous to the ozone layer (Symbol: Exclamation mark)

A couple of new pictograms have also been introduced:



Serious health hazard (Symbol: health hazard)



Gas under pressure (Symbol: Gas cylinder)

COSHH Assessment

Product including form of supply	
Hazards	
How is the product used (by whom, how often, where, how is it stored)?	
What are the current control measures?	
Action required – are current control measures sufficient?	
Assessed by:	Position:
Date of assessment:	Review date:

Attach a copy of the Safety Data Sheet and any other relevant information
e.g. manufacturer's instructions for use.