

HEALTH AND SAFETY MANAGEMENT

**CONTROL OF SUBSTANCES
HAZARDOUS TO HEALTH
COSHH**



PRIFYSGOL CYMRU
Y Drindod Dewi Sant
UNIVERSITY OF WALES
Trinity Saint David



What is a Hazardous substance?

Any substance likely to cause harm to health, environment or Property

Hazardous substances can include;

Adhesives, paints, cleaning agents, fumes, dusts, pest control products, bacteria

And can cause;

skin irritation, dermatitis, asthma, loss of consciousness, cancer, infection

Some hazardous materials have exposure limits set by regulation





Hazardous substance under COSHH

The **C**ontrol **O**f **S**ubstances **H**azardous to **H**ealth regulations 2002

Chemicals or other hazardous substances at work that can put people's health at risk

- Substances & mixtures classified as dangerous under CHIP – (Chemicals (Hazard Information and Packaging for Supply) Regulations 2008)
- Substances with WELs (Workplace exposure limits)
- Biological agents
- Some dusts, especially in high concentrations
- Other substances of comparable hazard



Hazardous substances NOT under COSHH

- Lead and Asbestos (separate regulations)
- Substances only hazardous due to:
 - Radio-activity
 - Simple asphyxiants
 - High pressure or extremes of temperature
- Biological agents not connected with work
 - Eg Swine flu or catching a cold from a colleague



Employer's Responsibility

Every employer has a duty to ensure that their employees and others are not exposed to risks to their health because they must use or come in contact with hazardous substances.

This is achieved by:

- Risk assessment
- Control measures
- Monitoring health & exposure if necessary
- Information, training and supervision



SFARP: So far as
reasonably
practical

Employer's Responsibility

Duty of employer	Duty for the protection of:		
	Employees	Other people on the premises	Other people likely to be affected by the work
Assessment	Yes	SFARP	SFARP
Prevention/control of exposure	Yes	SFARP	SFARP
Use of control measures and maintenance, examination and test of control measures	Yes	SFARP	SFARP
Monitoring exposure	Yes, where required	SFARP	No
Health surveillance	Yes, where appropriate	No	No
Information, training, etc	Yes	SFARP	No
Arrangements to deal with accidents and emergencies	Yes	SFARP	No



Employee's responsibility

- Take reasonable care of their own safety and not endanger others
- Cooperate with the employer
- Make full and proper use of control measure



The COSHH Regulations require:

- Assess the risks
- Decide what precautions are required
- Prevent or control exposure
- Ensure control measures are used and maintained
- Monitor any exposure
- Carry out any required health surveillance
- Prepare emergency plans and procedures
- Ensure employees are properly informed

The Quantity of material used or stored is not considered under these regulations



COSHH Assessment

All substances which are hazardous to health must be subject to a detailed task specific risk assessment.

Like all risk assessments a COSHH assessment must be carried out by a competent person



Step 1 : Risk Assessment for COSHH

► Identify the hazardous substance(s)

- Chemicals
- Biological materials
- Mixtures
- Proprietary products
- Reaction products and intermediates
- Etc.

Carried out by a competent person.



Step 1 : Risk Assessment for COSHH

New International Hazard Symbols



Danger



Flammable



Oxidiser



Step 1 : Risk Assessment for COSHH

New International Hazard Symbols



Explosive



Corrosive



Compressed or
liquefied gas



Step 1 : Risk Assessment for COSHH

New International Hazard Symbols



Aquatic
Toxicity



Warning



Sensitiser, carcinogen,
mutagen or teratogen



OTHER SYMBOLS YOU MIGHT SEE
– **WHAT DO THEY MEAN?**





HARMFUL TO THE
ENVIRONMENT



CORROSIVE



FLAMMABLE



IRRITANT /
HARMFUL



OXIDISING



EXPLOSIVE



TOXIC



BIOLOGICAL
AGENT



HIGHLY
FLAMMABLE



VERY TOXIC



Step 1 : Risk Assessment for COSHH

Other sources of information

- Data sheets & labels
- Workplace exposure limits (WELs) – see HSE web site
- On-line databases
- Previous experience & publications
(Especially for novel products)



Step 1 : Risk Assessment for COSHH

Identify who is at risk and how

- Staff
- Users
- Others

- Consider their current training (if any) and their background



Step 1 : Risk Assessment for COSHH

Identify who is at risk and how

- Inhalation
- Skin or eye contamination
- Ingestion
- Injection



Step 1 : Risk Assessment for COSHH

Evaluate the risk

Factors to Consider:

- Toxicity
- Form (gas, spray, dust, liquid, solid)
- Solubility
- Amount (weight &/or volume)
- Nature of the operation
- Length of exposure
- Number of people involved



Step 2 : Decide precautions needed

- ▶ Control exposure **in proportion to risk** by using the hierarchy of controls.
- ▶ Personal protective equipment should be a last resort as the prime means of control



Step 2 : Decide precautions needed





Step 3: Use of control measures

- ▶ Replace substance with a safer alternative
- ▶ Eg use a lower hazard disinfectant rather than bleach (irritant) if it will do the job adequately





Step 3: Use of control measures

► Use the material in a safer form eg:

- Use water-based paint instead of solvent-based paint
- Buy hazardous materials in pre-weighed sachets rather than having to measure & make-up from bulk quantities



Step 3: Use of control measures

- ▶ **Control the operation eg**
 - Isolate the work
 - Control at source
 - Fume cupboard
 - Local exhaust ventilation
 - Reduce the number of workers
 - Reduce the frequency

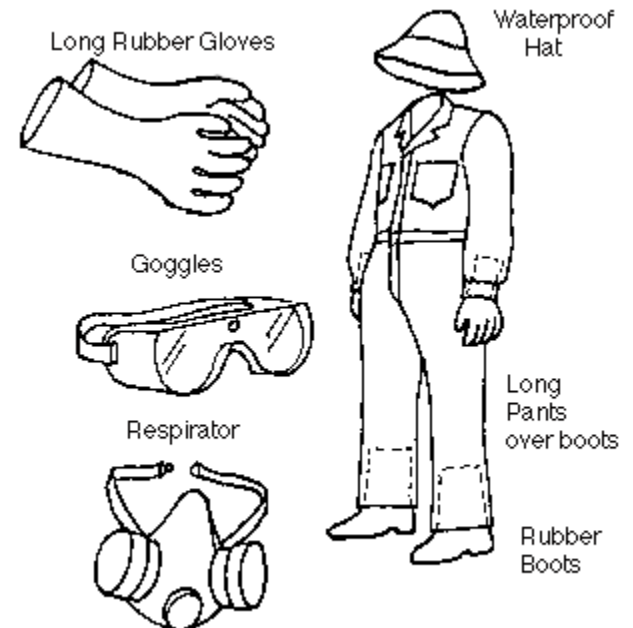




Step 3: Use of control measures

► Personal protective equipment as a last resort:

- Protects only the worker & not others in the room
- Training & maintenance required
- Often not very comfortable





Step 3: Use of control measures

► Good laboratory techniques is vital eg.

- Labelling
- Correct substance storage
- Warning signs where appropriate
- Cleanliness & tidiness
- Correct waste disposal





Step 4: Control measures used and maintained

- Must be kept in good repair & working properly
- Regular simple checks on airflow
- LEV & fume cupboards must have engineering checks every 14 months
- Records kept for 5 years



Step 5: Monitor exposure

► Measure concentrations where assessment concludes that:

- There is a serious risk if controls fail
- Exposure limits may be exceeded
- Control measures may not be working properly
- Employees are involved in certain specific work in Schedule 5 (unlikely in the University apart from possibly use of vinyl chloride monomer)

► Records must be kept for 5 years



Step 6: Health Surveillance

See Schedule 6. Medical Surveillance

► Only required if:

- Significant exposure of Schedule 6 processes
- Likelihood of exposure to substances linked to specific diseases but only if:
 - There is a reasonable likelihood that this will occur
 - It is actually possible to detect the disease or effect
- Records to be kept for 40 years



Step 7: Plans and procedures to deal with accident, incidents and emergencies

- Preparation phase(eg weighing out)
- The process itself
- Safe waste disposal
- Emergency procedures
 - Spillage
 - Fire
 - First aid



Step 8: Provide employees with adequate:

- ▶ Information
- ▶ Instruction
- ▶ Training
- ▶ Supervision



- ▶ This will include the procedures themselves and what to do in an emergency



Step 9: Check and review

- ▶ Are the control measures adequate?
- ▶ Are they working correctly?
- ▶ Is everyone aware of how to use them?
- ▶ Have you the necessary equipment to deal with an emergency or malfunction?



Basic instructions



Be Aware!



When you use substances at work you must be aware of whether it is hazardous Some substances may not be hazardous but may cause allergic reactions, check care plans





Always Read The Label

Always read the label on the container and make sure you understand the information.

If there is no label, do not use the contents and dispose of safely.





Check The Contents

Do not assume that because two containers look the same, they contain the same material.





Personal Protective Equipment

Always check that you are wearing the correct protection before handling chemicals. Gloves, eye protection, protective clothing, rubber boots or respirators may be required. All these must be kept in good order.

Check the COSHH assessment.





Using Chemicals

Use and store the smallest quantity of chemicals that are necessary for the particular job.





Using Chemicals

Don't mix or decant chemicals. Even some cleaning materials can produce a harmful reaction when mixed





Storing COSHH Materials

- Hazardous materials must be stored safely and securely
- Dry materials should be stored above any liquids
- Consideration should be given to any fire implications
- An inventory should be kept
- Old chemicals may require Special disposal





Disposal of hazardous materials

- Hazardous waste must be disposed of in a safe manner by licensed contractors
- Do not pour chemicals down the drain
- Do not put hazardous waste in with domestic refuse
- Always take advice and consult assessments and data sheets for disposal guidance





Accidents and Incidents

If you are burned by a chemical, or feel unwell after using a chemical, tell your supervisor and seek medical attention without delay.

Always ensure you have access to first aid

Report all incidents





What do I need to do?



If any material has a hazardous marking or you think it has the potential to do harm, take advice and

Get an assessment



EXERCISE

- Take one of the following activities and identify what products can be considered for a COSHH assessment.
- Make a complete assessment for one of the products you identified in this list.



EXERCISE

- Cleaners work
- A hairdresser
- A surgery
- An office
- A restaurant