



# HAZARDOUS SUBSTANCES

Workers are exposed to hazardous substances every day of their working lives. This information sheet examines the harmful substances which UNISON members may come across and provides advice to safety reps to ensure that members are not put at risk.

Workers are exposed to hazardous substances every day of their working lives. There are thousands of hazardous substances in daily use. You don't have to work in the chemical industry or in manufacturing to be exposed. Virtually all workplaces use or contain hazardous substances.

## WHAT ARE HAZARDOUS SUBSTANCES?

The main law on hazardous substances at work is the Control of Substances Hazardous to Health Regulations (COSHH). It defines hazardous substances to include: most hazardous chemicals (including waste and by-products), biological agents (for definition see the separate section later), and any dust.

Harmful substances which UNISON members may come across and which are covered by COSHH include the vast majority of commercial chemicals, many of which have a warning label. Examples may include:

- cleaning - bleach and other cleaning agents with a warning label (note that household washing-up liquid has no warning label and so is not covered);
- building maintenance - wood dust, glues and adhesives, solvents, paints, and oils;
- grounds maintenance/gardeners - pesticides

and chemical fertiliser;

- healthcare - medicines and biological agents (note that COSHH does not cover patients receiving medicine as part of their treatment);
- transport - oils and fuels; and
- office work/printing - printer/photocopier toner, inks, and paper dust.

When considering hazardous substances, remember: that they may come in various forms (gas, liquid, and solid), each of which may be more or less hazardous; that some may contain hazardous impurities; and that exposure to more than one substances at the same time may have additional or worse effects.

Some hazardous substances have separate specific laws covering them and are not covered by COSHH. Asbestos and lead for example. Substances which are dangerous just because they are explosive, flammable, or radioactive are also not covered. UNISON produces guidance on a number of specific hazards and diseases, where COSHH may or may not apply.

## THE EFFECTS ON HEALTH

There are three main ways a substance can enter the body: inhalation (breathing it in), absorption (through the skin), and ingestion (swallowing it).

The effects on health may develop quickly (acute) and be easily seen or may take years (chronic), making linking the ill-health to the exposure difficult. The effect may develop at the area where the substance enters or comes in contact with the body (local) or it may affect unrelated parts of the body (systemic). Workers may suffer: irritation perhaps leading to dermatitis, sensitisation possibly leading to asthma, a loss of consciousness if overcome by toxic fumes, infection by bacteria, and long-term effects such as cancer. According to the Health and Safety Executive (HSE), exposure can result in "discomfort, pain, time off work and, all too often, premature retirement and early death."

## WHAT MUST EMPLOYERS DO/ WHAT CAN SAFETY REPS DO?

COSHH covers virtually all workplaces, requiring employers to prevent wherever reasonably practicable, workers exposure to hazardous substances, and to control it where not. There are eight steps which employers must take to comply with COSHH. If the employer is not taking them, then workers are at risk. Safety reps should ensure that the eight steps are fulfilled.

### Step 1 - Assessing the Risks

Before exposing employees to hazardous substances, an employer must conduct a COSHH risk assessment. All the hazardous substances used in the workplace including waste and by-products must be identified, and information on each obtained. The first place to get information is the safety data sheet (more details later) which suppliers must give with each product supplied. Other sources of information include: product labels and other information from the manufacturer/supplier, HSE guidance and publications, technical journals, and UNISON.

Next the employer must consider how likely is it that someone's health will be effected. How much of the substance is used/produced? Who may be exposed?

Everyone has to be considered, including for example: visitors, the public, contractors, employees working at other locations or at another organisation, and especially cleaning and maintenance staff who's work may lead to them being highly exposed; or those who may be at greater risk, such as pregnant, young, or disabled workers, or those more susceptible because of sensitivities or other diseases. How often and for how long may they be exposed? Are employees or others exposed to more than one substance since this may cause worse health effects? Are they also exposed to substances at home which may affect the level or mix of exposure? Again, it may be necessary to seek further information as above.

Specialist help may be sought for conducting risk assessments when there is no one with sufficient competence. A competent person is someone with an understanding of COSHH and with all the necessary information, knowledge, training and experience to understand and make correct decisions about the hazards and risks, the work, and actions needed. In COSHH a brief guide to the regulations, the HSE says: "employees have the most knowledge of what really happens in the workplace... use this knowledge before deciding whether you need outside help... employees or their safety reps or safety committee should be involved in assessments. They have valuable contributions to make. They must be informed of the results..."

### Safety Rep Action

Have a look at the risk assessments - you have a legal right to see them.

Check that all hazardous substances, all those at risk, and how the work is "really" done are considered; and if not suitable or sufficient demand that the risk assessment be re-done.

Consider whether the risk assessor is competent?

Ensure that the employer speaks to you and the employees at all stages.



## Step 2 - Deciding what Precautions are needed to protect the workforce and others

If significant risks are identified in step one, the employer must consider how to prevent or minimise exposure and whether current controls are working and meet current HSE, Health and Safety Commission (HSC), industry, etc., guidance and good practice. Air monitoring and/or health surveillance results (more details later) will help to indicate whether the controls are working.

The risk assessment must be recorded, kept readily available, and explain the findings and the necessary steps to control exposure. How much is recorded depends on the risk.

The assessment must be regularly reviewed. The type of work or extent of risk will determine how frequently. Reviews must also take place whenever it is suspected that they are no longer valid or when there has been a significant change. Checks on control measures, air monitoring results, health surveillance checks, work related ill-health, or information on new health risks may all indicate that a review is necessary. A significant change includes: using a different substance or getting it from a new source; or a change in the controls, work process, or methods.

When reviewing an assessment employers must consider preventing exposure or improving control measures even further. Changes in technology (control methods or equipment) or in the cost of alternatives may mean that it is now possible to prevent or further reduce exposure.

### Safety Rep Action

Check that employers prioritise appropriately - perhaps the risk which is the most dangerous or will seriously effect the largest amount of people, rather than taking action on the problems which are the cheapest to deal with.

Ensure reviews are conducted as necessary and that they re-consider the issue of prevention and existing controls.

## Step 3 - Preventing and Controlling Exposure

Next, if reasonably practicable to do so, employers must prevent exposure. This can be done by:

- elimination - not using the substance or changing the process so that it is not needed or to avoid the waste or by-product. If this is not possible; then by
- substitution - using a less harmful alternative, but first the employer must consider and weigh-up all the new risks that this would create; or by
- using the substances in a safer form. For example, pellets instead of powder which would reduce exposure to dust.

Only when preventing exposure is not reasonably practicable, may the employer consider controlling exposure, and it should do so giving preference to the methods at the top of the 'hierarchy of control' (just below), but may use a combination of them as necessary:

- totally enclosing the system or process;
- developing safe systems of work or processes which minimise the amount of hazardous waste and by-products, and the chances of leaks, spills, and escapes;
- partially enclosing the process and handling systems and using local exhaust ventilation (LEV);
- LEV;
- general ventilation;
- safe storage and disposal;
- the prohibition of eating, drinking, or smoking since substances may get stuck on food, etc. and then be swallowed - but suitable areas for eating and drinking must be provided elsewhere;
- facilities for washing and changing,



and the laundering of contaminated clothing;

- reducing the number of employees exposed and the length of time they are exposed - but only after all of the above have already been used where possible; and
- personal protective equipment (PPE) - but only as a last resort or just to be prudent, in case the other control measures should fail. This cannot be used as an alternative to any of the above. It must also be provided at no cost to the employees.

For the control to be adequate an employer must meet the required exposure standards. For exposure by inhalation, this is set at a level at which most workers exposed to on a daily basis would not suffer ill-health. Some common substances have an occupational exposure limit (OEL), either an occupational exposure standard (OES) or a maximum exposure limit (MEL). An OES is set at a level which according to current knowledge is not likely to harm workers and employers must meet these limits. A MEL is set for substances which may cause the most serious health effects (for example, cancer and asthma) and there is no known safe limit or it is not possible to keep within such a limit. Employers must meet a MEL and reduce the exposure even further, so far as is reasonably practicable. Employees or their rep must be notified immediately if a MEL is exceeded. These OEL's can be found in a HSE document which is updated every year, EH40 (see further information).

If there is no OEL or if exposure is by absorption through or contact with the skin, or by ingestion, employers must set a standard at which nearly all the population could be repeatedly exposed and not suffer ill-health. The standard must be set after the appropriate information has been considered, for example: the safety data sheet, HSE/HSC guidance, technical papers, occupational medicine and hy-

giene journals, etc.

### Safety Rep Action

Have all the preventative steps and control measures been taken, and in the preferred order?

Ensure at the very least, that OELs are never breached – ask to check the records.

There should be no need to get in discussions about parts per million. If workers are suffering from work-related ill-health, clearly there is a problem. Conduct a simple survey of the symptoms suffered and use this to support a demand for action, regardless of the exposure levels.

### Step 4 – Ensuring that Control Measures are Used and Monitored

Employers must keep control measures in efficient working order, good repair, and clean; and ensure that they are properly used or applied. A competent person must exam, test, and maintain them at suitable intervals. Visual checks should be carried out weekly. Control methods such as working procedures must also be reviewed. How often will depend on the degree of risk and the reliability of the control method. Records of tests and examinations must be kept for at least five years.

Employees must: make proper use of the control measures, store them appropriately, and report defects to the employer immediately. Employers are responsible for providing employees with suitable training, information, and supervision so that they are able to do this (see step eight).

### Safety Rep Action

Check the records and ensure that the checks and tests are carried out, and deficiencies remedied.

Encourage employees to be proactive by reporting defects and checking that the control measures they use have been tested, etc.

