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Hazardous substances at work

UNISON guide for health and
safety reps



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Hazardous substances at work

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 be found in the following areas:

- 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 fertilisers
- healthcare - medicines and biological agents (note that COSHH does not cover patients receiving medicine as part of their treatment)
- transport - oils and fuels

- office work/printing - printer/photocopier toner, inks, and paper dust
- catering-flour which may cause asthma.

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. Some may contain hazardous impurities. Exposure to more than one substance at the same time may have additional or worse effects.

Some hazardous substances have 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 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, where 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 it is that someone's health will be affected. How much of the substance is used/produced? Who may be exposed? Everyone has to be considered, including visitors, the public, contractors, employees working at other locations or at another organisation and especially cleaning and maintenance staff whose work may lead to them being highly exposed. Others at greater risk are pregnant women,

the young, disabled workers, or those more susceptible because of sensitivities or other diseases.

Employers should ask, how often and for how long may employees 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. 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) and industry 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, 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
- 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 then consider controlling exposure, and should give preference to the methods at the top of the 'hierarchy of control' (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 or 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 (suitable areas for eating and drinking must be provided elsewhere)
- facilities for washing, 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
- 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 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. Employers must meet these limits. An 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 OELs 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 hygiene 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 into 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, clean and in good repair. They must ensure that they are properly used or applied. A competent person must examine, 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.

Step 5

Monitoring exposure

Employers must measure the amount of hazardous substances in the air breathed in by workers in the

following instances: where there could be a serious health risk if control measures failed; where such measuring is necessary to ensure that exposure limits are not exceeded; or where control measures might not be working properly. The only exception is where there is some other system for checking exposure, such as an automatic alarm.

The monitoring process must be carried out in accordance with a suitable procedure and at an appropriate frequency, which will depend on the substance, the control measures used and how close the exposure levels already are to the limits.

Records of the exposure monitoring must be kept for five years, except where they specifically relate to individuals, which must be kept for 40 years. They must be in a form that enables comparisons with any health surveillance records.

Safety Rep Action

- Have a look at the records (you are entitled to them in a form which doesn't identify individuals) and check that where necessary, monitoring is taking place and that exposure limits are not breached.

Step 6

Health surveillance

Employers must pay for and carry out during work time, health surveillance of employees' exposed to hazardous substances where there is a reasonable likelihood of an identifiable disease or adverse health effect occurring and detection is both possible and a low risk procedure to the employee. Whether the disease is likely to occur is a judgement based upon the frequency, duration, and type of

exposure, toxicological data and comparisons with other like substances, situations and studies.

The purpose of health surveillance is to protect employees' health by detecting adverse health effects as soon as possible, to collect data to assist in detecting and evaluating health hazards, to check that the current control measures are sufficient and working properly and to assess the immunity of employees working with biological agents (they may need vaccinations). Overall, the purpose is to benefit the employees and it must not be used to discriminate against the less fit or more susceptible.

Where there is a period of time between exposure and when the possible ill-effect might occur, health surveillance may need to continue once exposure has ceased, but only so long as detection is possible at a sufficiently early stage.

Suitable facilities should be provided by the employer, including a clean, warm, suitably furnished and private room. The examination must be by a trained doctor or nurse, or possibly a trained supervisor (for example, if checking the skin of employees for dermatitis, or asking questions about breathing difficulties relating to asthma). The health surveillance procedures must be suitable and appropriate to the hazard and risk and be as non-invasive as possible. It may include the taking of samples, measurements, and clinical examinations. Employees must turn up for health surveillance.

Records must be kept for at least 40 years from the last entry and in a form allowing comparisons with any records of the monitoring of exposure.

Safety Rep Action

- Have a look at the health surveillance records (in a form which does not identify individuals unless they consent)

and check that there are no health effects which are of concern.

- Negotiate regular check-ups because health surveillance (and air monitoring) is the only certain way of knowing how much the workers are exposed to and what the effects on them are.

Step 7

Plans and procedures for accidents, incidents and emergencies

If there is a risk of an accident, incident or emergency leading to exposure beyond the normal day-to-day risks a plan must be drawn up. The purpose is to enable an immediate response by following set procedures, such as emergency procedures, and how to warn and notify workers and the emergency services, etc. These 'safety drills' need to be regularly practised and appropriate first-aid facilities must be provided. The plan needs to be reviewed, updated and/or replaced as circumstances change.

If an uncontrolled escape takes place, immediate steps must be taken to minimise the harmful effects, return the situation back to normal and inform employees who may be effected. All persons not concerned with the emergency should be excluded from the area and others must be provided with the appropriate safety equipment including PPE.

This type of plan is not necessary where: the quantities of the hazardous substance would present only a slight risk to health; the current (step three) control measures are sufficient; and the substance is not a carcinogen, mutagen, or biological agent (see below for definitions of all three).

Safety Rep Action

- Consider if such a plan is necessary.
- Is any such plan sufficient?
- Is the plan rehearsed?

Step 8

Information, instruction, training and supervision

Employers must provide employees and others carrying out work in connection with their business (contractors and agency staff, for example) information on:

- details of the hazardous substances - name/s, risks, exposure limits, severity of hazard, safety data sheets and relevant laws
- findings of the risk assessments - the likelihood, type, severity and risks of exposure
- factors which may increase the risks, such as smoking
- precautions which should be taken
- the prevention and control measures, their purpose and how and when to use them
- PPE, the reasons for, how and when to use it
- monitoring, the results and the arrangements for having a look at them
- health surveillance, about the employees duty to attend any sessions, its purpose, the collective results in a form which doesn't identify individuals, and the arrangements for individuals to look at their own records
- any emergency procedures.

Employers must provide adequate and suitable training to ensure that people working at their premises (that's employees and contractors) can effectively apply and use the control methods, the PPE and the emergency procedures.

They must also provide sufficient and appropriate supervision and instruction to ensure that people at work do not endanger themselves or others by not knowing what they should do, what precautions to take and when to do so. They must ensure that employees understand the risks.

Safety Rep Action

- Agree with the employer that you, in addition to the employees concerned, will be notified whenever any limit is exceeded.
- Employees or their rep must be notified immediately if a MEL is exceeded, but in case the employer only notifies the workers, discuss with them the potentially serious nature of a MEL or other limit being exceeded and ask them to inform you.
- Check that the training, information, instruction and supervision is appropriate, covers all the issues and is presented in a form which the workers can understand.

Biological agents

Biological agents include bacteria, parasites, cell cultures, and other micro-organisms. They are classified into four groups according to their severity, the risk of infection, how easily and quickly they can pass from one person to another, and the availability of treatment.

COSHH applies to biological agents where exposure may cause ill-health and arises out of the deliberate intention to use or work with them, or is incidental to the work activity (as may be the case with refuse disposal, sewage purification and healthcare). COSHH does not apply to biological agents where exposure is not directly nor incidentally related to the work activities, such as catching a cold from a colleague.

It must be emphasised that biological hazards don't just apply to hospitals and labs. A London Borough of Tower Hamlets council worker died from TB (tuberculosis) after coming into contact with some of the poorest and most vulnerable people (who are at high risk from TB). UNISON advised the employer in this case that it must manage the problem by identifying staff at risk, screening them and offering vaccinations to those not immune. Residential homes staff face a similar problem from MRSA (methicillin resistant staphylococcus aureus).

COSHH imposes additional requirements when dealing with biological agents. These include specific requirements covering:

- accidents - reporting these where there has been a release and displaying notices on the procedure in event of an accident or incident
- decontamination and disinfection
- safe storage
- containment measures (showers, restricted access, specific disinfection, etc)
- collection and disposal of contaminated waste
- hygiene standards
- free vaccinations to those at risk from exposure

- identifying particularly susceptible workers (those with a suppressed immune system for example)
- PPE examination, maintenance and use – to prevent equipment becoming a means by which biological agents are transferred
- the provision of written information on handling certain agents
- the keeping of lists of employees exposed to certain agents – possibly for up to 40 years after the last known exposure
- the need to write and notify the HSE of first intention to use or store certain agents or if substantial changes are proposed which make the original notice to the HSE invalid.

When selecting control measures, the employer must take into account the fact that there is no exposure limit for agents. Their ability to infect and reproduce at very small doses means exposure may have to be reduced to levels at the limit of detection.

Carcinogens and mutagens

A carcinogen is any substance which CHIP (The Chemical Hazard Information and Packaging for Supply Regulations) or COSHH recognise as having a potential to cause cancer. Hardwood dust is one example. A mutagen is a substance which can alter chromosomes or genes.

Risk assessment is especially vital when considering carcinogens or mutagens because the development of noticeable ill-health effects may take place many years after the first exposure, there may not be any early warnings of adverse effects and treatment options may be limited. The

risk assessment should identify if carcinogens or mutagens are present and if so, the nature and extent of the risk. It should ensure that effective control measures and other precautions are planned and taken. If possible, carcinogens or mutagens should not be used, or produced as waste or by-products.

COSHH applies to carcinogens and mutagens as it does to other hazardous substances, except for where it is not reasonably practical to completely prevent exposure by using alternative substances or processes. In this case the employer must take all of the following control methods:

- totally enclose the process and handling systems so far as reasonably practicable and where this is not totally possible
- use plant, processes and systems of work which minimise the generation of or suppress and contain spills, leaks, dust, fumes and vapours – such as partial enclosure, LEV and general ventilation
- limit the amount of the substance stored
- minimise the number of people exposed, the duration of their exposure and exclude non-essential personnel from areas where they could be exposed
- prohibit eating, drinking and smoking in areas which may be contaminated
- provide hygiene measures including adequate washing facilities and regularly clean walls and surfaces
- designate areas and installations which may possibly be contaminated and use suitable and sufficient signs to identify them, and take measures to prevent the spread of contamination within and beyond these areas
- use safe systems for storing, handling and disposing of the substance including the use of closed and clearly labelled containers.

Suitable PPE must be provided if the above steps do not adequately control the risk of exposure.

If the control measures fail and carcinogens and mutagens may have escaped into the workplace, the employer must immediately inform employees and others who may be affected and only allow those carrying out repairs and other necessary work into that area. These personal must be provided with suitable PPE, including respiratory protective equipment (RPE). Safety reps will want to ensure that they are also informed about such potential exposure. Members should notify their safety reps just in case the employer doesn't.

Due to the potential serious health effect, air monitoring is normally necessary. Health surveillance is appropriate in all cases of exposure unless exposure is so adequately controlled that there is no reasonable likelihood of an identifiable disease or adverse health effect. The risk of cancer from exposure generally cannot be presumed to be reduced to zero unless exposure is prevented. As there may be no short-term indications of adverse effects, it is especially important to ensure that information, training and instruction is of an appropriately high standard.

Labelling and packaging

CHIP requires suppliers of dangerous substances and preparations (mixtures) - including chemicals and animal and vegetable matter - to provide information about the hazards on labels (if supplied in a package), and to package the chemicals safely so that the contents won't escape during normal handling. An example already used is household bleach, which has a warning label so that when used at work COSHH applies; and household washing-up

liquid which is not as harmful, has no label and therefore is not covered by COSHH.

The warning label must include: the name, address and telephone number of a supplier within the EU, Norway or Iceland; the name of the substance and trade name if it is a preparation; an indication of the danger and corresponding symbol, risk and safety phrases; and any EC or EINECS number (further detail on these requirements can be found below in the section on safety data sheets).

Under COSHH and CHIP, when hazardous substances such as chemicals are poured through pipes etc. or into smaller containers (for example into a cleaner's spray bottle), employers are required to ensure that the contents, their nature and any associated hazards are clearly identifiable on the pipes and containers. This is to prevent substances bought by employers in bulk being supplied to workers in smaller amounts without adequate labelling and information, leading to their misuse or putting the worker at extra risk.

Case study

The following case study is an example of effective branch action which succeeded in getting the employer to supply cleaners with different cleaning agents.

Cleaners working for an employer in the north-west were using a whole range of cleaning products from different manufacturers. The products were not labelled, so the cleaners did not know when and where they should and should not use each one, or what safety precautions they needed to take.

Using unlabelled chemicals is extremely dangerous. Some must be diluted to a particular strength for safe use, while

others must never be mixed, such as acids (some cleaning agents) and bleach (an alkaline). Some cleaners had noticed that certain substances they were using irritated their skin, others smelt strange and caused headaches.

The UNISON safety rep held a meeting with the cleaners to get their views and then carried out her own inspection. She reported all the risks that she found, in writing, to management asking them for their COSHH risk assessments, and for a meeting to discuss the problem.

It transpired that no formal COSHH risk assessments had been carried out. It was agreed that management would obtain all the manufacturers' safety data sheets (see below) for each substance used, as a first step towards conducting the assessments.

UNISON agreed with management that only three main cleaning substances would be used, that these would be kept in different coloured and labelled containers and that the cleaners would be given training in their safe use.

Safety data sheets

Getting material on dangerous substances should be easy, as the law requires all suppliers to provide specific information on hazards. However, in practice the law is often abused and very rarely enforced.

CHIP requires that safety data sheets be supplied with all substances classified as dangerous including the 2,500 on the HSC's approved supply list and any other substances if likely to be harmful. There are some exceptions, such as if a substance is bought in a shop and intended for the general public, but general safety information still needs to be provided.

Safety data sheets must be in English, even where a substance is supplied from abroad, but safety reps might want to agree for them also to be available in another language if there are workers who do not have English as a first language.

Safety data sheets must contain 16 headings (see below). One problem is that safety data sheets supplied from outside the EU often do not comply with EU law. Many chemicals are imported from countries such as the USA where the information required on the sheets is very different. However, if a substance is imported into the UK the supplier has a responsibility to provide a data sheet which complies with the EU law.

What use are safety data sheets?

Safety data sheets can be invaluable in helping employers carry out a COSHH risk assessment but are not a substitute for an assessment and employers cannot rely solely on information given within them. They vary considerably in quality and many are inaccurate or incomprehensible. Further information on the hazards should be sought and there are a wide range of independent sources of information available both commercially and free on the internet (see below).

Safety reps are entitled to copies of safety data sheets for any substance used in their workplace. Often however, the employer cannot provide them because they were not kept, or were not sent by the supplier. If this happens, insist that copies are sought.

There is no obligation under CHIP for employers to provide safety data sheets directly to employees. However, the Health and Safety at Work Act requires employers to give all necessary information to their employees where it is

necessary to ensure their health and safety at work. The HSC's Approved Code of Practice (ACoP) on safety data sheets states that "safety data sheets should be regarded as open documents and they, or the information they contain, should be available to employees or their appointed safety representatives."

Understanding safety data sheets

The supplier must give 'sufficient' information under the headings listed below so that the user can decide how to protect people at work.

Identification of the substances/preparation and company - the name or trade name of the substance

A trade name, such as 'Safety Cleaner' is the brand name given by the manufacturer. It does not tell you what chemicals are in the product or whether it is a mixture or a single chemical. The same chemical may be used in a variety of products with different trade names. The name that is given here should be the same as that used on the label. The name and address of the supplier, along with an emergency telephone number should also be given.

Composition/information on ingredients - of the substance or preparation

It is not necessary to always give the full composition and their actual concentrations, but sufficient information must be given to allow the employer to readily identify the risks.

A generic name for a chemical - describes a family or group of chemicals

For example 'chlorinated hydrocarbons' is the generic name for thousands of different chemicals. Sometimes a generic name is listed but this is not sufficient as different chemicals within the same family may have very different effects. The actual chemical names must also be given. For

example, methyl chloroform is one of the many chlorinated hydrocarbons. The chemical name is the easiest name to use when trying to get information on its health effects and how to protect against them.

A CAS and EC or EINECS number should be given

The CAS number is useful when searching for information because different chemicals may have the same name, but never the same CAS number. About 23 million chemicals have been assigned a CAS number. The EINECS is the European Inventory of Existing Commercial Chemical Substances, a list of 100,000.

Hazard identification

The most dangerous hazards that the substance or preparation presents, the specific hazards, the likely effect on health and the symptoms relating to uses and possibly misuses. Usually it will describe how the substance is likely to be hazardous (inhalation, touch, or swallowing) and is likely to use a number of specific risk and safety phrases. Examples of risk phrases include 'may cause cancer' or 'toxic by inhalation'. Safety phrases tell the user what to do or not to do, such as 'do not empty into drains' or 'wear suitable gloves'. In some cases, a supplier will only give a number instead of the phrase. Ask the employer what it means or have a look at the list on the HSE's website.

First aid measures

Brief and easy to understand information on what first aid or medical attention is required in the event of exposure to the substance, subdivided according to the type of exposure (inhalation, skin contact, swallowing, or eye contact). Both the symptoms and effects should be given, including whether any may develop later. What should be done immediately and whether professional medical assistance is likely to be required should also be indicated.

Firefighting measures

How to extinguish any fire involving the substance, what kind of extinguisher should not be used, whether any additional hazards are likely in a fire, such as an explosion or creation of toxic gases.

Accidental release measures

The personal and environmental precautions needed if such were to happen, including how to clean up any spillage.

Handling and storage

Whether any special precautions are needed, including technical advice on matters such as ventilation, humidity, temperature and time limit for storage; whether special precautions are required for packaging and containers for this substance.

Exposure control

The ACoP on safety data sheets makes it clear that PPE is a secondary line of defence. All other methods of control and prevention must first be considered. If PPE is necessary, the type that will provide adequate and suitable protection must be specified. It might include eye, skin or hand protection and breathing apparatus (RPE).

Physical and chemical properties of the chemical

This should include appearance (solid, liquid, or gas); colour; description of any smell; boiling, melting and flash-point (the temperature at which it will ignite); disposal properties; vapour pressure; relative density; solubility and pH (whether it is an acid or alkaline, its strength or whether it is neutral).

Stability and reactivity

Any conditions and materials to avoid such as light, pressure, acids, water or anything likely to make the substance unstable or hazardous; any dangers if the product decomposes.

Toxicological information

A 'concise but complete and comprehensive' description of the various health effects which can arise if someone is exposed to the substance, including: the different types of exposure, the symptoms and the immediate and long-term effects including the possibility of cancer or affects on any future children.

Ecological information

The likely effects the substance may have on the environment, including: how it degrades; the long and short-term effect on plants, animals, and other organisms and whether it is likely to effect the ozone layer or contribute to global warming.

Disposal consideration

How to dispose of the substance safely, including reference to any specific EU or UK laws.

Transport information

Any special precautions for transportation both inside and outside the employer's premises.

Regulatory information

The health and safety information on the label that is required by law, any specific EU or UK law that relates to the substance and any OEL.

Other information

The ACoP recommends that information here could include training advice, how to get further information and any sources of data used to compile the data sheet; plus the date of publication or revision of the sheet unless stated elsewhere.

Remember that many data sheets are inaccurate or incomplete. If you suspect this, ask the employer to get an accurate and complete sheet and ensure that they do a full COSHH risk assessment.

Getting further information

The HSE website has a lot of useful information including specific pages on:

- COSHH (<http://www.hse.gov.uk/coshh>)
- CHIP and safety data sheets (<http://www.hse.gov.uk/chip>)
- EH40 (<http://www.hse.gov.uk/pubns/eh40sup.pdf>)
- Hazard symbols and risk and safety phrases (<http://www.hse.gov.uk/chip/phrases.htm>)

These web pages also include user-friendly guides:

- COSHH: a brief guide to the regulations, at: <http://www.hse.gov.uk/pubns/indg136.pdf>
- Idiot's guide to CHIP, at: <http://www.hse.gov.uk/pubns/indg350.pdf>

Alternatively, just go to the main page at: <http://www.hse.gov.uk> and select from the list of health and safety topics.

To ensure they are fulfilling their legal duties, employers should have a copy of:

- The COSHH Regulations and ACoP 2002 (ISBN: 0 7176 2534 6, price £10.50)
- COSHH essentials: easy steps to control chemicals (ISBN 0 7176 2421 8, price £25.00).

Both can be ordered from HSE Books on: 01787 881165.

Other useful websites for safety data sheets include:

- <http://physchem.ox.ac.uk/MSDS> (Oxford University's)

- <http://www.atsdr.cdc.gov/toxfaq.html> (the United States Agency for Toxic Substances and Diseases Registry)

- <http://msds.pdc.cornell.edu/msdsrch.asp> (Cornell University) which has the most comprehensive list of data sheets (Note: most are American so may not have all the required information under UK law.)

If after getting a data sheet, you need further information on a particular disease or substance:

- have a look at UNISON's website at: <http://www.unison.co.uk/safety> on which there are numerous guides and information sheets, and if you don't find what you require, contact UNISON's Health and Safety Unit. Contact details are given below.

Advice

If you have any specific health and safety queries your branch health and safety officer or branch secretary may be able to help you. If they are unable to answer the query they may pass the request on to the regional officer or to the Health and Safety Unit at national office.

UNISON
 Health and Safety Unit
 1 Mabledon Place
 London
 WC1H 9AJ
 Tel: 020 7551 1156
 Fax: 020 7551 1766
 E-mail: healthandsafety@unison.co.uk

Comments

UNISON welcomes comments on this guidance from branch safety officers and safety reps. Either write to or e-mail the Health and Safety Unit at the address shown on page 30.