

CONTROL of SUBSTANCES HAZARDOUS TO HEALTH (COSHH)

Guidance Notes on Risk Assessment



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1. Introduction

The COSHH Regulations impose duties on the University to protect its staff and any other persons, whether at work or not, who may be affected by the University's work involving substances hazardous to health, including biological agents. The Regulations, and compliance with them, must constitute an integral part of the management system of the University's Faculties/Departments. Compliance with the Regulations not only ensures compliance with the law, but will prevent incidence of ill health, ensure best working practice and will encourage the evolution of a positive health and safety culture within the organisation, whereby our students will be taught by example, the best standards of health and safety.

In order to ensure compliance with the Regulations Heads of School, or equivalent, must ensure that work is not undertaken that is liable to expose any employees, or others, to any substance hazardous to health and to make certain that the exposure is kept to a minimum after a suitable and sufficient risk assessment is undertaken .

The purpose of an assessment is to enable a valid decision to be made about measures necessary to control substances hazardous to health arising from any work. It also enables the employer to demonstrate readily, both to himself and other persons, that all the factors have been considered, and that an informed and valid judgement has been reached about the risks, and the steps that need to be taken to achieve and maintain adequate control.

2. Guidelines For Risk Assessment

The COSHH Regulations provide a framework to protect people at work against health risks that may arise from work activities that expose them to hazardous substances.

It is a common misconception that risk assessment is the identification of the hazardous properties of a substance. The hazardous properties of a substance constitute its **potential** to cause harm. The **risk** is the likelihood that it will cause harm in the actual circumstances of use. An assessor must appreciate the difference between these two concepts.

The purpose of a risk assessment is to ensure that a valid decision is made about the measures to be taken to prevent or control exposure to substances hazardous to health.

In practical terms a risk assessment will demonstrate that a judgement has been reached.

The essential steps that must be taken are:

- Identify hazards intrinsic to substances to be used (safety data sheets)
- Assess the risks to health arising from the use of the hazardous substances in the work activity.
- Decide what precautions and control measures are necessary to minimise the risk.
- Implement the control measures.
- Ensure control measures are used and maintained
- Monitoring exposure of users (if necessary).
- Consider whether biological monitoring and/or health surveillance is appropriate, or required
- Ensure the users have sufficient information, instruction and training so as to perform the work safely and competently
- Ensure adequate procedures are in place to deal with any emergency situation, which may foreseeably arise.

A risk assessment is required by the Regulations to be "suitable and sufficient". The following list identifies the properties a "suitable and sufficient" risk assessment would contain:

- an assessment of the risks to health;
- consideration of the practicability of preventing exposure to hazardous substances;
- any additional equipment required in consultation with Property Services (i.e. LEV), to achieve adequate control of exposure where prevention is not reasonably practicable, in accordance with Regulation 7;
- identification of other action necessary to comply with Regulations 8- 12 (these regulations are summarised in Appendix B).

The amount of detail required in a risk assessment will be determined by a number of factors:

- the degree of risk and conclusions about the adequacy of proposed or existing control measures;

- knowledge gained through previous experience;
- existing records concerning the substances involved, persons exposed, their activities and previous exposure results.

There will be occasions when it will only be necessary to read suppliers' Safety data sheets to conclude that existing procedures and practices will satisfactorily control exposure. On other occasions it will be necessary to obtain further information via HSE guidance notes, technical/scientific papers or trade literature to estimate likely exposure and hence to decide upon appropriate control measures.

It should be borne in mind that hazardous substances can enter and damage the body by a variety of routes – principally by inhalation, skin absorption, ingestion or exposure of the eyes.

Where a substance has been assigned a Workplace Exposure Limit (WEL) the assessment may include a recommendation that workplace measurement of airborne contaminants should be carried out.

A pragmatic, common sense approach should be adopted with regard to writing assessments. The principle behind risk assessment is that it should enable a person undertaking an activity (whatever their expertise) to:

- understand the hazards of the substance used in the activity,
- appreciate the necessity to implement appropriate control measures to minimise the risk to health.

2.1. Principles of good practice for the control of exposure to substances hazardous to health

The Regulations introduce eight principles of good practice that will apply regardless of whether a substance has been assigned a Workplace Exposure Limit (WEL)

To be effective in the long term, control measures must be practical, workable and sustainable. The principles of good control are now part of the COSHH Regulations - they appear in [Schedule 2A](#), aligned with [Reg. 7\(7\)](#). Employers who do not follow these principles will not be properly protecting their employees.

They are to:

Design and operate processes and activities to minimise emission, release and spread of substances hazardous to health

Take into account all relevant routes of exposure

Control exposure by measures that are proportionate to the health risk

Choose the most effective and reliable control options which minimise the escape and spread of substances hazardous to health

Where adequate control of exposure cannot be achieved by other means, provide, in combination with other control measures, suitable personal protective equipment

Check and review regularly all elements of control measures for their continuing effectiveness

Inform and train all employees on the hazards and risks from the substances with which they work and the use of control measures developed to minimise the risks

Ensure that the introduction of control measures does not increase the overall risk to health and safety

Procedures must be established at School or equivalent level to ensure that any implemented control methods are effective and are being properly used.

Information, instruction and training is necessary for all those using control measures, be they mechanical controls, management controls, etc.

2.2 Hazardous Substances

Where the hazardous substances are chemicals or biological agents the full and correct scientific names must be listed. Where practicable all the hazardous substances involved in an activity should be dealt with in **one** risk assessment.

In the case of proprietary materials all the constituents considered hazardous to health must be listed. These should be identified from the information contained within the relevant Safety Data Sheets which must be provided by the supplier.

In the case of airborne dust it is important that the nature and source of the dust is identified and listed.

The list of hazardous substances considered should include those, which, though not present initially, may be created by the activity, either by accident or design. This may include wastes, exhaust gases, fumes from gas appliances etc.

When considering whether a substance is considered hazardous to health a number of other factors need to be taken into account. Different forms of the same substance may present different hazards. For instance some substances have a fibrous form, which may present a serious hazard to health if the fibres are a certain size or shape. Refer to COSHH General Approved Codes of Practice for detailed additional factors.

Where a substance is hazardous to health solely by virtue of its radioactive, explosive or flammable properties, or solely because it is at a high or low temperature or high pressure, it is exempted from the requirements of the COSHH Regulations.

However, there is still a legal requirement to pass this information on to the end user under existing legislation. It will often be the case that precautions to deal with these properties influence the options available under COSHH. Therefore it may be prudent to use the risk assessment proforma to disseminate the information under the Hazard Classification Heading.

Hazardous chemicals provided by suppliers should arrive in containers labelled with the correct warning symbols (Please see Appendix B). Safety Data Sheets should also be supplied and these will contain more detailed information and should be stored in a secure place.

Categories of danger, health effects and hazard symbols that are relevant to COSHH are illustrated below. It should be noted that identical symbols must be affixed to any other container to which the substance is transferred for subsequent supply to the end-user.

Acute toxicity (Cat 1-3)



Category 1: substances known to impair human fertility or cause developmental toxicity (i.e. harm the unborn child).

Category 2: substances, which should be regarded as if they impair human fertility or cause developmental toxicity.

Category 3: substances which cause concern for human fertility or which cause concern for humans owing to possible developmental toxicity effects.

Acute toxicity (Cat 4)



Skin and eye irritation. Skin sensitisation specific target organ toxicity. Respiratory tract irritation Narcotic effects.

Corrosive



Corrosive to metals Skin corrosion Severe eye damage

Carcinogenic, Mutagenic, Sensitising and Toxic for reproduction



Respiratory sensitisation, Germ cell mutagenicity

Carcinogenicity, Reproductive toxicity specific target organ toxicity. Aspiration hazard

Classification of Biological Agents

- | | |
|----------------|---|
| Group 1 | Unlikely to cause human disease. |
| Group 2 | Can cause human disease and may be a hazard to employees; it is unlikely to spread to the community and there is usually effective prophylaxis or treatment available. |
| Group 3 | Can cause severe human disease and may be a serious hazard to employees; it may spread to the community, but there is usually effective prophylaxis or treatment available. |
| Group 4 | Causes severe human disease and is a serious hazard to employees; it is likely to spread to the community and there is usually no effective prophylaxis or treatment available. |

The following list describes hazardous physico-chemical properties that substances may exhibit. This information must be disseminated to the end user and must also be borne in mind during the assessment process.

Flammable



Flammable gases, aerosols, liquids or solids Self reactive substances and mixtures Pyrophoric liquids and solids Self-heating substances and mixtures Substances and mixtures, which in contact with water emit flammable gases Organic peroxides

Oxidising



Oxidising gases, liquids and solids

Explosive



Explosives Self-reactive substances and mixtures, types A, B Organic peroxides, types A,B

2.3 Controlling the risk

COSHH requires that the methodology of risk control be considered in a hierarchical manner:

1. Identify the hazards to health that substances used, or produced, in a work activity present.
2. Avoid the use of hazardous substances

3. Investigate the possibility of achieving the end result in a manner that does not involve the use of hazardous substances (simple example – mechanical fixing v solvent glue fixing);
4. Substitution i.e.
 - Investigate the possibility of using a less hazardous substance (simple example – use of hypochlorite-free cleaners instead of bleach);
 - Investigate the possibility of purchasing the substance in a safer form, for example pellets as opposed to powder, utilising pre-cast gels etc.

2.4. Assess the risk

Hazardous chemicals provided by suppliers should arrive in containers labelled with the correct warning symbols. Safety Data Sheets should also be supplied and these will contain more detailed information.

- Consulting Safety Data Sheets, text books, research papers, etc. to identify the hazards and the exposure routes by which they can adversely affect health, or to predict those in the case of the synthesis of several materials/substances
- Look at how and where the materials are to be actually used in the activity (quantities, volatility, open work area, fume cupboard, etc) and whether the hazardous exposure routes are available;
- Compare the risk with the existing control strategies;
- Introduce or upgrade existing mechanical control measures, (dedicated extract systems, fume cupboards, downdraught tables, etc.) and only if mechanical measures cannot be practicably implemented, or if they alone are insufficient to adequately control the risk, should personal protective equipment be considered and implemented;
- Implement personal protective equipment programme (respirators, eye protection, etc.) [see note on respiratory protective equipment];
- Monitor the effectiveness of the control strategies;
- Ensure that you have control strategies in place for emergency situations e.g. spills
- Consider whether health surveillance is appropriate/required and implement (substances assigned hazard statements H317 or H334 (risk phrases R42or R42/43 under CHIP)).
- Ensure those involved in, and those potentially affected by, the activity are properly trained and supervised.

- Ensure appropriate disposal procedures are specified.

2.5. Information and Guidance

The notes below are offered to provide general information as regards hazardous substances and risk controls as well as providing sufficient detailed guidance to enable assessors to complete the University's COSHH risk assessment form.

2.6. Safety Data Sheets (SDS)

Safety Data Sheets contain important information as to the health and safety hazards posed by chemicals/substances, required exposure control measures, first aid requirements, spillage containment, safe disposal requirements, etc. It is a legal requirement that the supplier provide these at no cost. The supplier at first supply should automatically provide them, but as this does not always happen in practice, you should ensure that you have the SDS for each hazardous substance that has been purchased by contacting the suppliers as appropriate.

SDS do not in themselves constitute a risk assessment, but are merely the starting reference point for such an assessment, as the SDS only gives you information about the substance itself - you must assess the risk from use of the substance in the actual work activity, including amounts, concentrations etc.

Some generic SDS are available on databases accessible via the Internet, unless these sites are those of your actual supplier, the information should be treated with caution as the generic substance may not be identical to the substance you have, and this is particularly important where a hazardous preparation (mixture of substances) is concerned. In such case you should always obtain the dedicated product SDS from the supplier.

3 PREVENTION/CONTROL OF EXPOSURE

3.1 Prevention of Exposure

Regulation 7(1), reproduced in its entirety in Appendix C makes it clear that the employer must consider **preventing** exposure to a hazardous substance if this is reasonably practicable. Consideration must therefore be given to how this might be achieved.

It is not sufficient to assume blindly that an activity to be assessed **must** be allowed to go ahead. The level of risk may well be unacceptable. In such a case, prevention of exposure should be achieved by **ceasing the activity**.

If, within an activity, a single substance presents an unacceptable risk, it may be possible to prevent exposure by **substituting a new substance or different form of the same substance**.

If the above precautions are not reasonably practicable, then one of the following strategies must be adopted.

3.2 Control of exposure to biological agents

Special provisions relating to biological agents are described in Schedule 3 of the Regulations and the Approved Code of Practice.

3.3 Control of exposure to carcinogens

If complete prevention is not reasonably practicable, the control measures listed in regulation 7(3)(a)-(h) **must all be taken**. In addition, regulation 7(9) lays down the procedures an employer must take in the event of the failure of a control measure. (Please see Appendix C)

3.4 Control of exposure to hazardous substances not classified as biological agents or carcinogens

So far as is reasonably practicable, control of exposure should be achieved by measures other than personal protective equipment.

The Approved Code of Practice recommends that any combination of the following should be considered:

- a) totally enclosed process and handling systems;
- b) plant or processes or systems of work which minimise generation of, or suppress or contain, hazardous dust, fume, etc and which limit the area of contamination in the event of spills and leaks;
- c) partial enclosure, with local exhaust ventilation;
- d) local exhaust ventilation;
- e) sufficient general ventilation;
- f) reduction of numbers of employees exposed and exclusion of non-essential access;
- g) reduction in the period of exposure for employees;
- h) regular cleaning of contamination from walls, surfaces, etc;
- i) provision of means for safe storage and disposal of substances hazardous to health;
- j) prohibition of eating drinking, smoking, etc in contaminated areas;
- k) provision of adequate facilities for washing, changing and storage of clothing, including arrangements for laundering contaminated clothing.

If the above measures fail to provide adequate control, then, in addition, suitable protective clothing should be used as a last resort.

The Approved Code of Practice describes some situations where personal protective equipment may be necessary and these include:

- a) where it is at present not technically feasible to achieve adequate control of exposure by process, operational and engineering measures alone. In these cases, exposure should be reduced so far as is reasonably practicable by these measures, and then, in addition, suitable personal protective equipment should be used to secure adequate control;
- b) where a new or revised assessment indicates that personal protective equipment is necessary to safeguard health until such time as adequate control is achieved by other means;
- c) where urgent action is required, e.g. because of plant failure, the only practicable solution in the time available may be the provision and use of personal protective equipment; and
- d) during routine maintenance operations. Although exposure occurs regularly during such work, the infrequency and small number of people involved may make process control measures unwarranted.

To determine the appropriate control method the assessor must have a good working knowledge of the activity or the work area in which the activity is proposed to take place.

3.5 First Aid/Spillage/Disposal Procedure

Where possible, the assessor should give details of the procedures for individual substances.

Where this is not feasible, e.g. because a generic approach to assessment is adopted, then the assessor should specify where the information may be obtained.

Sources may include SDS, standard works, government publications, etc. It is absolutely essential that sources quoted, and any relevant first-aid equipment, should be accessible to persons carrying out the activity, at the time and place of the activity.

4. Guidance on how to complete the risk assessment form

University proforma (see Appendix A). can be downloaded from the website .

<http://www.mmu.ac.uk/humanresources/health/policy/risk-assessment-form.doc>

A copy of the completed RA should be displayed near the activity/equipment and the original copy held centrally in the school/department.

4.1 Activity

This box must contain a short description of the work activity that is to be assessed.

4.2 Reasons for Activity

In many situations this may have been answered sufficiently in box number 1. If this is not the case further information must be supplied.

4.3 Status of Persons Undertaking the Activity

So far as employees are concerned this must be their job title.

With regard to students the information provided must include their course title and present year.

Where an activity may be carried out by a range of students with varying degrees of competence it is important that those students having the least experience are identified for the purposes of risk assessment.

4.4 Hazard identification

Hazardous substances

Within COSHH a "substance hazardous to health" means:

- Chemicals and products containing chemicals
- dusts
- fumes, mists, vapours
- nanoparticles/nanotubes
- toxic gases and asphyxiating gases
- biological agents (micro-organisms). If the packaging has any of the hazard symbols then it is classed as a hazardous substance.
- micro-organisms in the environment that cause diseases such as leptospirosis or legionnaires' disease **and** micro-organisms used in laboratories.

Classification of hazards

Where the hazardous substances are chemicals or biological agents the full and correct scientific names must be listed. Where practicable **all** the hazardous substances involved in an activity should be dealt with in **one** risk assessment.

In the case of proprietary materials all the constituents considered hazardous to health must be listed. These should be identified from the information contained within the relevant Safety Data Sheets which must be provided by the supplier.

In the case of airborne dust it is important that the nature and source of the dust is identified and listed.

Where the substance presents an inhalation hazard and has been assigned a Workplace Exposure Limit (WEL), state this. (See below notes on EH40)

Classify each of the substances according to one, or more, of the following categories: - Very toxic; Toxic; Corrosive; Harmful; Dermal Irritant; Respiratory Irritant; Carcinogen; Teratogen; Mutagen. Also, state if an airborne substance can also be absorbed through the skin (Sk), or is a respiratory sensitiser (Sen) (see notes on EH40).

State any hazard statements denoted in the SDS (pre 1st December 2010 state risk phrases [CHIP classification and labelling]).

Health and Safety Executive (HSE) Guidance Note EH40

EH40 Workplace Exposure Limits (WEL) is a guidance document in the Environmental Hygiene Series **updated and published annually** by the HSE; it contains listings of all current WEL's assigned to airborne hazards and should be used in conjunction with the current COSHH Regulations.

The listings also denote whether a substance is a respiratory sensitiser, or can be absorbed through the skin, when of course careful controls require to be implemented to guard against the risk of occupational asthma or synergistic bodyloading (combined effect of more than one substance), respectively. A copy in PDF format can be downloaded from the HSE website free of charge, EH40 . <http://www.hse.gov.uk/pubns/priced/eh40.pdf>

These limits are set to protect the health of workers and are averaged over a specified time period referred to as a time weighted average (TWA). Two time periods are used: long term (8 hours) and short term (15 minutes). The long term exposure limit (LTEL) is intended to control effects that require prolonged or accumulated exposure (chronic effects) e.g. lung and liver disorders, whilst the short term exposure limit (STEL) are intended to control effects that may be evident after only brief exposures (acute effects) e.g. respiratory irritations and eye lacrimation (tears).

In order to comply with the COSHH Regulations WELs **must not** be exceeded.

Exposure routes

Identify all likely exposure routes to ensure these are taken account of when formulating your safe system of work.

The potential for hazardous substances to cause ill health will depend upon the manner in which the substance can harm the body (target organs, or systems, at risk), route of entry to the body by which the substance is hazardous (hazard route) and whether that route is available during exposure to the substance (exposure route), for example injection is a possible route if needles are being used during the experiment.

Substances may be harmful by one, or more, of the following routes:

Inhalation - respiratory problems, can transfer into circulatory system, Central Nervous System (CNS) disorders

Ingestion - poisoning, gastro-intestinal problems

Dermal contact - corrosive burns, dermatitis, absorption into the body through the skin, transfer into circulatory system, CNS disorders

Injection/Inoculation – (hypodermic needle stick, or cut by contaminated sharp) transfer into circulatory system, CNS disorders, poisoning

Eye contamination - absorption into the body, transfer into circulatory system, etc

Consider what controls you may already have in place; if for example, the substance is an inhalation hazard and you are using it in a fume cupboard or glove box, the inhalation route has been eliminated, so there should be no risk via this route!

Consider also that different forms of the same substance can present very different hazards; soft wood is a respiratory sensitiser in the form of respirable size dust particles and therefore a hazard by inhalation, as such it has been assigned a Workplace Exposure Level, in solid form it presents no inhalation risk.

Engineering control measures

Identify any control measures required to undertake the work safely.

These may include;

- Open bench work with no further control measures (N.B. inhalation risk must be insignificant – substance must be non-hazardous, or purchased in a form that presents no inhalation risk)
- Open bench work but Local Exhaust Ventilation is required
- Specify which type of LEV is to be used and when during the activity it must be used
- The work must be carried out wholly within a fume cupboard(s)
- The work must be carried out wholly within a glove box or other sealed system
- The work can be carried out partially on the open bench and partially in an enclosure or partial enclosure (glove box, fume cupboard etc.)

- Specify which type of enclosure is to be used and what part(s) of the work activity must be carried out within it
- Is air monitoring required to ensure that the control of exposure to the hazardous substance(s) is adequate? N.B. air monitoring is not required if adequate control can be shown by other means, for example all work is carried out on a fume cupboard that is regularly maintained, and performance checked.

Where control is by mechanical means e.g. fume cupboard, glove box, local extract ventilation the Regulations require that they be thoroughly inspected and tested at least every 14 calendar months. Where such systems form an integral part of a buildings fabric (e.g. a fume cupboard ducted to the roof of a building) this will be undertaken by Property Services.

The requirement to inspect and test extends to management controls where it may be work methodology or adherence to a Safe System of Work that ensures adequate control, in these circumstances such systems should be subject to audit and monitoring at regular intervals.

Personal Protective Equipment (PPE)

PPE must never be used as the first option of control but must only be used where adequate control of exposure to the hazardous substance(s) cannot be achieved by substitution, or engineering controls alone, or where operating practicalities makes their choice unavoidable. (e.g. transient site working).

Specify in the safe system of work when PPE must be worn. Also consider the need for suitable footwear in the lab to avoid injury if substances are spilt or dropped.

Hand Protection

Identify if any of the following is required

- Disposable gloves
- State which material, for example nitrile etc
- Disposable gauntlet
- Reusable glove
- Reusable gauntlet

Special Clothing

Identify any special clothing that is required for the task:

- Cotton coverall

- Disposable coverall
- Chemical coverall
- Laboratory/Howie coat
- Disposable apron, etc.

Eye protection

Identify any eye protection that is required:

- Safety spectacles
- Impact resistant goggles
- Chemical resistant goggles, etc.

Face protection

Identify any face protection that is required:

- Impact resistant faceshield
- Chemical resistant faceshield
- Faceshield with chin guard, etc.

Respiratory protection

Identify any respiratory protection that is required

- Disposable respirator (particulate/water based mists only)
- Reusable half-face respirator
- Full-face respirator
- Powered hood

Filter selection

Check manufacturers Filter Selection Chart for filter and level of protection required.

All wearers of tight fitting masks must be facefit tested.

Breathing Apparatus

This is specialist equipment that must only be used by those who have been specifically trained and certificated as competent to use by an authorised trainer. If

this equipment is to be used enter the name(s) of the certificated persons in the safe system of work.

Determine if biological monitoring is required based on the risk, exposure etc.

This is required if the employee is working with respiratory or skin sensitisers, or substances assigned hazard statements H317 or H334 (risk phrases R42 or R42/43 under CHIP). If required, health surveillance must be arranged via the HR .

If you or your staff have a compromised respiratory system e.g. asthma, bronchitis, or suffer from a skin disorder, or any other allergic reactions, you/they must inform your supervisor in order that suitable precautions can be taken.

Training

All users must be properly trained and supervised and individual training records for all users must be retained for inspection.

Supervision

State any supervision required when undertaking this task. Consider the following:

- Undergraduate students
- Postgraduate students
- Post doctoral staff
- Research staff

Implications for persons not involved in the work activity

Identify any other persons who may be affected by this task and consider what they may need to be informed of. For example;

- Cleaning/maintenance staff – when can they enter the lab, what to do if they find a spill
- Contractors – permit to work system
- Visitors – supervised access only
- Emergency personnel – any specific access issues, list of which chemicals may be in the lab
- Other staff or students in close proximity

Emergency procedures

Consider the following;

Are written emergency instructions provided at the work sites?

Do Security and other personnel, for example cleaners, know the emergency procedures?

Are proper and sufficient spill kits available and staff are aware of these?

Are emergency contact names and telephone numbers provided at the work site(s)?

Has a person with the appropriate training and knowledge been appointed to deal with spillages of particularly hazardous substances?

Specify whom and how they are to be contacted

The operator knows how to summon, if applicable, the following personnel.

First aider

In house BA team (where present)

External emergency services

The location of the following, if applicable, is known to the operator

Eye irrigation point

Body shower

First aid box

Waste disposal

Detail all waste disposal routes for all hazardous substances used or produced. Consider the following:

Flushing to drain after rendering harmless to persons or the environment

To general waste collection after rendering harmless to persons or the environment

Via the Estates and Building's Waste Department's disposal service

Accreditation, verification and review

When this assessment is complete it should be signed and dated by the assessor and then checked and signed by the person responsible for operations in that section of the School/Unit where the work is being carried out. You must ensure that the person undertaking the task is competent to do so and has received sufficient information, instruction and training.

Review of risk assessment

The Regulations require that an assessment shall be kept up to date and reviewed if:

There is reason to suspect that the assessment is no longer valid (for example after an accident or incident); or

There has been a significant change in the work to which the assessment relates

5. Safe system of work and verification by users (separate form)

The above risk assessment should naturally generate a safe system of work (or standard operating procedure). Specify in this section how the task is to be performed including any safety measures identified and ensure all users have seen this section and signed to verify they have read and understood.

This page could be printed out and displayed in the laboratory as well as issued to all users.

The full risk assessment must be held in a central location where all users can access it if they so wish but they do not have to see the risk assessment unless they ask for it, as long as they have all seen the safe system of work.

5.1 Additional Information

These guidelines are not a summary of the COSHH Regulations or the Approved Code of Practice. In some cases the assessor may require further advice and assistance. Where possible problems regarding risk assessment should be addressed within the Department/Division/Unit. Where serious problems are encountered then the University Health and Safety Unit should be consulted.



The MANCHESTER METROPOLITAN UNIVERSITY

COSHH RISK ASSESSMENT

FACULTY/DEPARTMENT		BUILDING
1) ACTIVITY		
2) PERSONS AT RISK		
3) HAZARDS		
3B) Hazard Rating		HIGH MED LOW
4) RISK CONTROL METHODS		
4B) Hazard Rating with control methods		HIGH MED LOW
5) FURTHER ACTION REQUIRED		
NAME AND TITLE OF ASSESSOR	SIGNATURE	DATE
		REVIEW DATE
SIGNATURE DEAN OR HEAD OF DEPT		DATE

APPENDIX B

NEW Pictogram	Number	Hazard Class (CLP)	OLD 'CHIP' Symbol
	GHS-01	Explosives Self-reactive substances and mixtures, types A, B Organic peroxides, types A,B	 Explosive
	GHS-02	Flammable gases, aerosols, liquids or solids Self reactive substances and mixtures Pyrophoric liquids and solids Self-heating substances and mixtures, which in contact with water emit flammable gases Organic peroxides	 Highly/Extremely Flammable
	GHS-03	Oxidising gases, liquids and solids	 Oxidising
	GHS-04 NEW	Compressed gases, liquids and solids Liquefied gases Refrigerated liquefied gases Dissolved gases	No current symbol
	GHS-05	Corrosive to metals Skin corrosion Severe eye damage	 Corrosive
	GHS-06	Acute toxicity (Cat 1 - 3)	 Toxic/ Very Toxic Harmful

	<p>GHS-07 NEW</p>	<p>Acute toxicity (Cat 4) Skin and eye irritation Skin sensitisation specific target organ toxicity Respiratory tract irritation Narcotic effects</p>	 <p>Harmful/Irritant</p>
	<p>GHS-08 NEW</p>	<p>Respiratory sensitisation Germ cell mutagenicity Carcinogenicity Reproductive toxicity specific target organ toxicity Aspiration hazard</p>	 <p>No current specific symbol Use either</p>
	<p>GHS-09</p>	<p>Hazardous to the aquatic environment</p>	 <p>Dangerous for the environment</p>

APPENDIX C

Regulations 8 – 12 (brief summary)

Regulation 8 ‘Use of control measures etc’

Describes the duties of employers and employees with regard to the appropriate use and application of control measures including personal protective equipment.

Regulation 9 ‘Maintenance, examination and test of control measures etc’

Lays down requirements for the maintenance, examination and testing of control measures including personal protective equipment.

Regulation 10 ‘Monitoring exposure at the workplace’

Describes the circumstances under which the exposure of persons to substances hazardous to health should be monitored. Lays down a regime for record keeping.

Regulation 11 ‘Health surveillance’

Describes the circumstances under which it is appropriate for a health surveillance scheme to be implemented. Health surveillance may include medical surveillance under the supervision of an employment medical adviser or appointed doctor. Lays down a regime for record keeping.

Regulation 12 ‘Information, instruction and training for persons who may be exposed to substances hazardous to health’

Lays down the requirement for the employer to provide information, instruction and training. Identifies the type of information to be provided.

APPENDIX D

Regulation 7: Prevention or Control of Exposure to Substances Hazardous to Health

Regulation 7, 'Prevention or control of exposure to substances hazardous to health' is of fundamental importance with regard to the process of risk assessment. It is reproduced in its entirety below, and should be fully understood before any risk assessment is attempted.

- 1 Every employer shall ensure that the exposure of his employees to substances hazardous to health is either prevented or, where this is not reasonably practicable, adequately controlled.
- 2 So far as is reasonably practicable, the prevention or adequate control of exposure of employees to a substance hazardous to health, except to a carcinogen or a biological agent, shall be secured by measures other than the provision of personal protective equipment.
- 3 Without prejudice to the generality of paragraph (1), where the assessment made under regulation 6 shows that it is not reasonably practicable to prevent exposure to a carcinogen by using an alternative substance or process, the employer shall apply all the following measures, namely –
 - a) the total enclosure of the process and handling systems unless this is not reasonably practicable;
 - b) the use of plant, processes and systems of work which minimise the generation of, or suppress and contain, spills, leaks, dust, fumes and vapours of carcinogens;
 - c) the limitation of the quantities of a carcinogen at the place of work;

- d) the keeping of the number of persons who might be exposed to a carcinogen to a minimum;
 - e) the prohibition of eating, drinking and smoking in areas that may be contaminated by carcinogens;
 - f) the provision of hygiene measures including adequate washing facilities and regular cleaning of walls and surfaces;
 - g) the designation of those areas and installations which may be contaminated by carcinogens, and the use of suitable and sufficient warning signs; and
 - h) the safe storage, handling and disposal of carcinogens and use of closed and clearly labelled containers.
- 4 Where the measures taken in accordance with paragraph (2) or (3), as the case may be, do not prevent, or provide adequate control of, exposure to substances hazardous to health to which those paragraphs apply, then, in addition to taking those measures, the employer shall provide those employees with such suitable personal protective equipment as will adequately control their exposure to those substances.
- 5 Any personal protective equipment provided by an employer in pursuance of this regulation shall comply with any provision in the Personal Protective Equipment (EC Directive) Regulations 1992^(a) which is applicable to that item of personal protective equipment.
- 6 Where there is exposure to a substance for which a maximum exposure limit has been approved, the control of exposure shall, so far as the inhalation of that substance is concerned, only be treated as being adequate if the level of exposure is reduced so far as is reasonably practicable and in any case below the maximum exposure limit.

- 7 Without prejudice to the generality of paragraph (1), where there is exposure to a substance for which an occupational exposure standard has been approved, the control of exposure shall, so far as the inhalation of that substance is concerned, be treated as adequate if –
 - a) that occupational exposure standard is not exceeded; or
 - b) where that occupational exposure standard is exceeded, the employer identifies the reasons for the standard being exceeded and takes appropriate action to remedy the situation as soon as is reasonably practicable.

- 8 Where respiratory protective equipment is provided in pursuance of this regulation, then it shall:
 - a) be suitable for the purpose; and
 - b) comply with paragraph (5) or, where no requirement is imposed by virtue of that paragraph, be of a type approved or shall conform to a standard approved, in either case, by the Executive.

- 9 In the event of the failure of a control measure, which might result in the escape of carcinogens into the workplace, the employer shall ensure that:
 - a) only those persons who are responsible for the carrying out of repairs and other necessary work are permitted in the affected area and they are provided with suitable respiratory protective equipment and protective clothing; and
 - b) employees and other persons who may be affected are informed of the failure forthwith.

- 10 Schedule 3 of these Regulations shall have effect in relation to biological agents.

- 11 In this regulation “adequate” means adequate having regard only to the nature of the substance and the nature and degree of exposure to substances hazardous to health and “adequately” shall be construed accordingly.