

Control of Substances Hazardous to Health Policy

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1. Introduction

London Metropolitan University fully accept their legal obligations to take all reasonable steps to minimise risks arising from their activities which may affect their employees, visitors, students and members of the public.

This policy highlights the requirement for a suitable and sufficient risk assessment to be in place for any activity where there is a potential exposure to substances hazardous to health and to ensure that the correct level of control is taken to prevent harm.

In addition there is a general duty imposed on designers, manufacturers, importers and suppliers of any article or substance used at work to ensure that:

It is safe when properly used and adequate information is provided about;

- (a) About the use for which it is designed,
- (b) That it has been tested
- (c) About any condition necessary to ensure that when put to that use it will be safe and without risk to health;

As a responsible employer the University will, so far as is reasonably practicable, ensure that all goods & substances purchased are safe for their intended purpose and that the appropriate information is available to ensure safe use.

These arrangements incorporate the following principles:

- Prior assessment by each School / department of the products to be used to evaluate the level of risks with the view of eliminating the risks;
- Satisfactory assessment before work commences of the competence and recommended control measures are understood by the person who will carry out the task;
- Establishment of effective measures of control to ensure co-operation and coordination between the division and others likely to be affected by the activity;
- Provision of such information as is necessary to ensure the health and safety of all parties. In the case of substances, all information must be available regarding their use, testing, emergency procedures in the case of an accident or spillage and any other conditions necessary in relation to their safe use.

2. Scope

This procedure applies to all work materials hazardous to safety and health within London Metropolitan University. They include recognised hazard classifications such as toxic, harmful, corrosive, sensitiser, irritant, carcinogen, mutagen and toxic to reproduction. Biological hazards are classified according to their potential and ability to cause infection and harm.

COSHH applies to virtually all substances hazardous to health except:

- Asbestos and lead, which have their own regulations
- Substances which are hazardous only because they are radioactive, at high pressure, at extreme temperatures, or have explosive or flammable properties (other regulations apply to these risks)
- Biological agents that are outside the employer's control, e.g. catching an infection from a workmate (if in doubt, please contact HSE for advice)

3. Definitions

Hazardous substance: any substance (or preparation) which is/are:

- Classified as hazardous, comes with a hazard warning label indicating danger, such as: very toxic, toxic, harmful, corrosive or irritant.
- Carcinogens, mutagens and teratogens
- Any micro-organism which creates a hazard to the health of any person
- Dust of any kind when present at a substantial concentration in air
- Any substance not mentioned above which creates a hazard to health
- Asphyxiants

Unclassified substances should be considered hazardous where there is a reasonable expectation that they have any of the above harmful properties.

- Preparation: mixture/solution of two or more substances
- PPE: personal protective equipment
- Precursor: a substance from which another is formed, especially by metabolic reaction.
- Workplace exposure limit (WEL): A WEL is the maximum concentration of an airborne substance averaged over a reference period to which employees may be exposed by inhalation.
- Hazard statement: means a phrase assigned to a hazard class and category that describes the nature of the hazards of a hazardous substance or mixture, including, where appropriate, the degree of hazard;
- Precautionary statement: means a phrase that describes recommended measure(s) to minimise or prevent adverse effects resulting from exposure to a hazardous substance or mixture due to its use or disposal.

3. Roles and Responsibilities

3.1 Heads of Department

- a) Ensure suitable COSHH assessments are completed for hazardous substances stored and used in the department.
- b) Ensure the effective implementation of control measures

3.2 Managers, Supervisors and Principal Investigators

- a) Ensure COSHH assessments are completed and recorded for all work processes involving hazardous substances available in their areas of responsibility.
- b) Inform staff and researchers of findings from relevant COSHH assessments, including the results of any exposure monitoring and health surveillance.
- c) Provide staff, researchers and visitors with suitable information, instruction and training regarding:
 - the nature of the substances they work with, or are exposed to, and the risks created by exposure to these substances
 - the precautions they should take
 - control measures, their purpose and how to use them
 - how to use personal protective equipment and clothing provided
 - spill response
 - emergency procedures
- d) Ensure the provision of suitable PPE
- e) Ensure relevant equipment has been inspected/maintained as scheduled/required
- f) Ensure safe and responsible disposal of hazardous substances
- g) Monitoring control measures and their continued effectiveness
- h) Taking responsibility for any hazardous substances left behind by staff under their remit/service/department.
- i) Ensure that hazardous areas are identified in the Risk Assessments, brought to the attention of the Health & Safety Office and that this information is available to the emergency services.
- j) Periodic update of applicable COSHH register.

3.3 Staff/ Researchers

Staff are required to:

- a) Follow information, instruction and training received.
- b) Follow safe systems of work or standard operating procedures.
- c) Inform their manager of unsafe conditions or equipment posing imminent danger.
- d) Report any shortcomings in risk control arrangements.
- e) Avoid putting themselves or others at risk by their acts or omissions.
- f) Participate in health surveillance and workplace monitoring when required.
- g) When leaving their role, hand over any hazardous substance to the Principal Investigator/Supervisor/Manager.

Failure to comply with either the safety arrangements or control measures could result in disciplinary action.

3.4 Students

- a) Students will be informed of the hazards and the reason for following safe system of working. Equipment supplied as part of the assessment must not be intentionally or recklessly interfere with or misused especially PPE.
- b) Students and researcher are required to wear the PPE provided to them, store as instructed and report damage

3.5 Occupational Health

The Occupational Health Service is responsible for the provision of a suitable health surveillance scheme with a qualified physician.

3.6 Health & Safety Office

- a) Provision of training, advice and guidance on the completion of suitable and sufficient COSHH risk assessments.
- b) Ensuring the adequacy of the University's risk assessment arrangements including the provision of risk assessment forms and other pro forma.
- c) Provision of specialist advice on the application of this procedure and on the control measures appropriate to control risk.
- d) Ensure that hazardous areas are identified in the Fire Risk Assessments and that this information is available to the emergency services.

4. Procurement

Staff purchasing hazardous substances must ensure that they make an initial assessment on the hazardous nature of the substances, based on the information supplied on the Safety Data Sheets (SDS) prior to ordering the substance for use/storage within the workplace. SDSs must be obtained on all products supplied by a Product Suppliers. Always consider whether there is a less hazardous substance that can be used.

It is expected that staff will only procure the minimum quantity of the hazardous substance they require. This reduces the risk (e.g. of a fire) during storage but it also cuts costs for getting rid of hazardous waste. Where large quantities (i.e. greater than 4.99L) of certain hazardous substance (typically highly toxic, or highly flammable) are involved, notification must be provided to the Health & Safety Team.

5. Storage

Hazardous substances must be securely (i.e. anti-tampering) and safely stored in appropriate storage cabinets, taking into consideration the type of product and any relevant segregation which may be required (i.e. flammables may not be stored within 3 metres of corrosives). Guidance is available from suppliers, contained within the SDS, on the (in) compatibility of storage of chemicals.

Hazardous substances must be labelled (on its container), with name, maximum quantity, hazard(s) of the substance, and any other relevant information at hand.

Local arrangements for storage (i.e. the points above) need to be documented. This can be combined with the COSHH assessment for the intended use/activity (see below), or kept as a general storage assessment.

Emergency procedures for hazardous substance storage to deal with foreseeable accidents (i.e. spills) need to be considered, and controls put in place to deal with them, such as suitable and sufficient spill kits.

Local disposal arrangements also need to be put in place to prevent uncontrolled accumulation of old/unused hazardous substances so that they are regularly disposed of in line with the University's waste disposal protocol.

6. Risk (CoSHH) Assessment

Hazardous substances can cause harm in various forms (i.e. solid, liquid, dust, fumes, and etc.) with a risk of exposure by inhalation, ingestion or absorption through skin or eyes. Other factors which have an impact on exposure include the quantity being worked/handled, the duration and frequency of exposure.

These health effects can also result in acute and/or chronic illnesses, some of which are not immediately noticeable or felt for a number of years.

The persons at risk of exposure, and their level and frequency of exposure must be identified and documented in a COSHH risk assessment form. This form must be used to document:

A brief description of the activity, process or experiment (i.e. type of work/activity, nature of the substance being handled, the physical and chemical properties of the substance)

- Health effects
- Routes of exposure
- List of identified hazards and persons at risk
- Potential outcomes/harm
- Risk rating
- Control measures (i.e. fume hood, PPE, etc.)
- Review date
- Assessors
- Signature of the approving manager (i.e. Principal investigator/manager)

Review the COSHH assessment, annually, or sooner if there is reason to doubt the validity of the control measures, changing workers; relocating or altering the process or when a worker reports a problem.

6.1 Identification of health and safety hazards

Suppliers' labels, safety data sheets (SDSs) and catalogues are primary sources of safety information about hazardous substances. However, suppliers' information only describes the inherent properties of their product and must be supplemented with a risk assessment. Most container labels and safety data sheets include a combination of standard hazard and precautionary statements.

Authoritative information such as that from professional associations, published valid data, protocol and HSE publications should also be used to augment suppliers' safety data. Advice on how to proceed may be obtained from Technical Managers, Senior Technicians, operative personnel and the Health & Safety Team.

6.2 Workplace exposure limits (WELs)

There are WELs for a number of substances hazardous to health. These are intended to be used to prevent excessive exposure to specified hazardous substances by providing set limits for exposure. WELs refer to concentrations of hazardous substances in the air that people breathe, averaged over a specified period of time referred to as a time-weighted average (TWA). Two time periods are used: long-term (eight hours), and short-term (15 minutes). These limits cannot be readily adapted to evaluate or control non-occupational exposure. Some substances for which WELs have been approved have been assigned short-term exposure limits (STELs) and have a 15-minute reference period.

These substances can have acute effects and the purpose of the short-term limit is to protect against the adverse health effect occurring from brief exposures to the substance. HSE's publication [EH40/2005 Workplace exposure limits](#) includes the list of substances assigned a WEL. It also provides more detailed guidance on the use of WELs.

The absence of a substance from the list of WELs does not mean that it is safe. Many substances do not have a WEL. For these substances, staff should apply the principles of good practice to control exposure to a level to which nearly all the working population could be exposed, day after day at work, without adverse effects on health.

7. Controlling the risks of exposure

The most effective method to minimise the risks of exposure to hazardous substances (and dangerous goods) is to consider whether it is possible to eliminate the use of the substance. When this is not possible, there is a broad hierarchy of control based on inherent reliability and likely effectiveness, and these are:

- **Elimination** of the hazardous substance;
- **Substitution** or modification of the substance, process and/or workplace;
- Applying **engineering** controls, such as enclosures (fume hoods/safety cabinets), splashguards, LEVs, resulting in separation of the operator by distance;
- **Administrative** controls, such as job rotation, housekeeping, rules (i.e. no eating/drinking in labs), labelling and provision of training;
- **Personal protective equipment** to be worn by exposed persons such as gloves, safety goggles/face shields, Respiratory Protective Equipment (RPE); apron/clothing and etc.

These should be described in the SDS and the COSHH assessment must identify the correct type of PPE to be used (i.e. the exact type of glove; respirator; face shield/goggles; apron). PPE should be implemented as a last line of defence, only once elimination, substitution and separation have been considered, and even then it may be necessary to incorporate a combination of the above to minimise the risk of exposure.

7.1 Selection of PPE

During selection of appropriate PPE, consider:

- The type and level of exposure to the hazardous substance concerned;
- Its effectiveness in the actual work situation;
- The practical difficulties of ensuring its continued correct use;
- Any potential limitations and costs.

Refer to PPE Policy for more information.

7.2 Communicating control measures

The findings of the COSHH assessment and information about the controls needed to prevent harm/injury must be given to every person who might be exposed. This requirement extends to informing contractors' workers, visitors and colleagues and posting warning signs where appropriate.

The Construction (Design and Management) Regulations (CDM) specifically require COSHH information and results of assessments to be recorded in the safety plan.

8. Maintenance and inspection of equipment

Safety related equipment and any PPE has to be examined periodically, ideally prior to each use to ensure it is not defective and is working as intended. Defects must be remedied in good time (contact Estates Service Desk/ Technical Management for relevant service/maintenance requests, Principal Investigator/ Supervisor/ Managers for PPE issues)

For guidance on the Use and Management of Local Exhaust Ventilation (LEV) systems (fume cupboards) please see the relevant Policy on the Health and Safety Policy Guidance page [Management and USE of LEV Policy](#)

9. Training, information and instructions

Persons involved in the work or likely to be exposed to risk are to be informed, instructed, trained and supervised as necessary on

- How the substance can affect them through inhalation, ingestions, absorption and injection.
- The cleaning, storage and disposal procedures and why they are required and when to carry them out.
- How the risks are controlled and what must be done to avoid exposure
- The precautions they are to take including how and when to use safety devices and personal protective equipment.
- Emergency procedures, spill response, first aid measures.
- The results of monitoring, if carried out and the collective results of health surveillance.

Those completing/ undertaking COSHH assessments must be competent to do so and should have attended formal training. Any complex emergency response procedures should also be practiced by/with person's likely to be affected.

10. Health Surveillance and monitoring

The objectives of health surveillance are to:

- Check the health of individual employees by detecting, as early as possible, adverse changes which may be caused by exposure to substances hazardous to health;
- Collect, keep up-to-date and use data and information for determining and evaluating hazards to health so that action can be taken to prevent more serious disease from developing;
- Check control measures are working effectively by providing feedback on the accuracy of the risk assessment and the effectiveness of control measures to identify where further steps to manage risk are needed.

The COSHH assessment, should address exposure monitoring, and when health surveillance is required. In the case of respiratory sensitisers, carcinogens and substances known to cause irreversible injury, health surveillance is requisite and these risks must be identified in the COSHH assessment.

The advice from Health & Safety team must be obtained regarding health surveillance and/or workplace monitoring.

10.1. Exposure Monitoring

Exposure monitoring is necessary if the risk assessment shows that it is needed to reach an informed decision about the risks. It is necessary to monitor workplace exposure levels where a serious risk to health could result if control measures were to fail or deteriorate. Monitoring strategy must be specified on the risk assessment record.

Monitoring will ensure that the exposure levels are below the limits set in the [EH40 Workplace Exposure limits](#). The risk assessment must identify the frequency of any monitoring.

11. Disposal / Unknown substances

All hazardous products must be disposed of in accordance with the manufacturer's instructions and the Controlled Waste Regulations.

Any waste chemicals shall be quarantined by the relevant supervisor for disposal. If in doubt as to the hazards of a chemical read the SDS, contact the Manufacturer/supplier and/or consult with the Technical Manager.

Suitable containers for the collection of waste must be provided at each work location. Each container must be clearly labelled to display the type of waste it is designed to hold. These receptacles are not to be used for any purpose other than those specified on the label.

The Estates sustainability can also be consulted for further information/advice on the disposal of hazardous chemicals. If the container is not labelled and the contents of the container not known, the container should be marked:

“Caution do not use: Unknown chemical”

A container of an unknown chemical should be stored away from other chemicals where it cannot be used until its contents can be identified and the container appropriately labelled. If the contents cannot be identified, they should be disposed of following consultation with the relevant local authority.

12. Precursor substances

12.1. Drug Precursors

If storing certain precursor or hazardous materials in particular amounts, Principal Investigators/Managers should be aware that they may need to:

- Notify the appropriate authorities
- Follow the guidelines for storing hazardous materials securely, further information is below

A licence may also be required to purchase certain precursors and poisons. Principal investigators must visit the Home Office website to [check if they need a licence](#).

12.2. Pathogens and toxins

There are pathogens and toxins - listed in [Schedule 5](#)– which potentially pose the greatest risk to human life if misused. These dangerous substances include, in addition to the substances listed in Schedule 5 themselves, anything (such as a plant or animal) that is infected by or is a carrier of a pathogen listed in Schedule 5 unless it satisfies prescribed conditions or is kept or used in prescribed conditions. Principal Investigators holding these substances are responsible for notifying the Home Office within one month of obtaining these substances. Further notification must be provided if there is any change to the holdings once any modifications come into effect.

12.3. Radioactive materials

No work should be undertaken on radioactive materials without authorization and agreement in writing of the Health & Safety Team, as most radioactive activities require a license, although some are exempt.

The security of radioactive material is regulated by the Radioactive Substances Act 1993 and the Environmental Permitting Regulations (England and Wales) 2010.

There are certain conditions which must be met to hold certain radioactive materials on site, Principal Investigators must take the security measures as required by the conditions of their license.

Counter Terrorism Security Advisers (CTSAs) act as site security advisers to the environment agencies in England. If you are holding any radioactive materials, pathogens or toxins or have any questions, please notify the Health & Safety Team.

This procedure also applies if you have:

- Sealed radioactive sources (for example high-activity sealed sources)
- Mobile units designed for off-site use (such as equipment for radiography)

12.4. Chemical weapons convention

Certain toxic chemicals and their **precursors** are subject to legal requirements under the [Chemical Weapons Convention](#).

There are three classifications of chemicals:

- Schedule 1
- Schedule 2
- Schedule 3

If you produce, process, consume, import or export any of these chemicals you must meet the legal requirements. A full list of scheduled chemicals and their precursors are listed in the [Organisation for the Prohibition of Chemical Weapons website](#). The most likely precursors to be found in a potential research setting at LMU are those in [Schedule 3](#).

13. Transport

Staff or students transporting hazardous substances from one workspace to another on campus must include the assessment of transport hazards of these substances in their risk assessment. Persons involved with the task must be aware of and understand the emergency response measures and other controls in place. Substances must be fully labelled, in appropriate containers with clear and undamaged signage. Where possible, the use a stable trolley with some level of containment (bundling) to contain any spill should be encouraged.

For transport of cylinders, please see Compressed Gases Safety Policy.

For transportation of hazardous substances off campus, the correct packing, labelling, and consignment standards must be met. For more information visit the [Carriage of dangerous goods](#) guidance provided by the HSE.

14. Record Keeping

The following documents/records must be retained by the service/department for audit purposes:

- COSHH register(s)
- COSHH assessments
- Records of statutory inspections, examination(s) and testing of engineering control measures (retained for 5 years).
- Evidence of training/instructions and/or information (i.e. attendance records)
- Records of emergency response practice drills
- LEV records, including commissioning report, examination and test reports, user manual, the logbook and training records (retain these for a minimum of 5 years).

These must be maintained by the relevant manager in the School/Department shared safety drive.

14.1. Health Surveillance records

Health Surveillance records will be retained by the Occupational Health Service for a minimum of 40 years.

15. References and further reading

- [Working with substances hazardous to health: a brief guide to COSHH \(INDG136\), HSE 2012](#)
- [Control of Substances Hazardous to Health \(COSHH\) Regulations 2002](#)
- [Control of substance hazardous to health: Approved Code of practice and guidance \(L5\) 2013 HSE](#)
- [Clearing the air \(INDG408\), HSE](#)
- [Misuse of Drugs Regulations 2001](#)
- [Controlled Waste Regulations 2012](#)
- [HSE further information about COSHH](#)
- [EH40/2005 Workplace exposure limits: Containing the list of workplace exposure limits for use with the COSHH Regulations, HSE Books 2011](#)
- [Read the Label ~ How to find out if chemicals are dangerous leaflet INDG352, rev 1 HSE books 2010](#)

16. Appendix A: Eight Principles of Good Practice for the Control of Exposure to Substances Hazardous to Health

(Schedule 2A; CoSHH 2002 (as amended))

1. Design and operate processes and activities to minimise emission, release and spread of substances hazardous to health
2. Take into account all relevant routes of exposure – inhalation, skin adsorption and ingestion – when developing control measures
3. Control exposure by measures that are proportionate to the health risk
4. Choose the most effective and reliable control options which minimise the escape and spread of substances hazardous to health
5. Where adequate control of exposure cannot be achieved by other means, provide in combination with other measures, suitable personal protective equipment
6. Check and review regularly all elements of control measures for their continuing effectiveness
7. 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
8. Ensure that the introduction of control measures does not increase the overall risk to health and safety.