

COSHH PROCEDURES AND GUIDANCE

Title:	Control of Substances Hazardous to Health (COSHH) including Local Exhaust Ventilation (LEV)	
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Union Agreement:	

FOR HEALTH AND SAFETY USE ONLY		
POSITION	SIGNATURE	DATE
GMB Representative:		
EIS Representative:		
Principal:		

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Appendix 1 – COSHH Assessment Form

Appendix 2 – LEV Weekly Checklist

Further information:

_____ College Health, Safety and Well-being Policy

HSE web-site on COSHH <http://www.hse.gov.uk/coshh/>

HSE web-site on LEV <http://www.hse.gov.uk/lev/index.htm>

1 Introduction

The Control of Substances Hazardous to Health Regulations (COSHH) 2002 (amended 2004), are intended to protect people from ill health caused by exposure to hazardous substances.

The Regulations require employers to:

- Assess the risks to health and safety.
- Decide what precautions are needed to prevent ill health.
- Prevent or control exposure.
- Make sure that control measures to prevent exposure are used and maintained.
- Ensure arrangements are made to deal with accidents, incidents and emergencies.
- Monitor exposure and carry out health surveillance if appropriate.
- Ensure that all employees are properly informed, trained and supervised.

What is a Substance Hazardous to Health under COSHH?

- Substances or their mixtures, classified as dangerous to health under the Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 (CHIP). These are identified by their warning label and the supplier must provide a safety data sheet for them.
- Substances with workplace exposure limits (specified on the item's safety data sheet).
- Biological agents if they are directly connected with work.
- Any kind of dust if it is present in significant quantities.
- Substances used directly in work activities (eg adhesives, paints, cleaning agents).
- Substances generated during work activities (eg fumes from soldering and welding).
- Naturally occurring substances (eg grain dust).
- Biological agents such as bacteria and other micro-organisms.
- Any other substances which create a risk to health, but are not specifically covered by CHIP including: asphyxiants (ie gases such as argon and helium), pesticides, medicines, cosmetics or substances produced in chemical processes.

Substances *NOT* included under COSHH

- Asbestos and lead, which have their own regulations.
- Substances which are hazardous only because they are: radioactive; at high pressure; at extreme temperatures; have explosive or flammable properties (other regulations apply to these risks, but they still need to have suitable risk assessments carried out).

- Biological agents that are outside the employer's control, eg catching an infection from a workmate.

For the vast majority of commercial chemicals, the presence (or not) of a warning label will indicate whether COSHH is relevant.

Effects of Hazardous Substances

Examples of the effects of hazardous substances include:

- Skin irritation or dermatitis as a result of skin contact.
- Sensitisation, allergic reaction or asthma from contact with substances used at work.
- Losing consciousness as a result of being overcome by toxic fumes.
- Cancer which may appear long after the exposure to the chemical that caused it.
- Infection from bacteria and other micro-organisms (biological agents).

2 Responsibilities

The College's Health, Safety and Well-being Policy details the general responsibilities of employees and line management and in particular line management's responsibility to ensure that risk assessments are in place.

The **Heads of Centre/Heads of Service/Support Area Managers/Curriculum Manager** shall:

- Ensure that suitable and sufficient risk assessments for their areas are carried out and that substances hazardous to health (defined in the introduction) have been highlighted in these assessments.
- Ensure that Manufacturer's Safety Data Sheets (MSDSs) are available for all substances.
- Ensure that COSHH assessments are carried out within their areas.
- Ensure that COSHH assessors are suitably trained and have the knowledge and experience to carry out an assessment.
- Ensure that COSHH assessments are regularly reviewed and monitored.
- Notify the Health, Safety and Well-being Team/Human Resources Team of personnel who require health surveillance as a result of their COSHH assessment.
- Ensure that all personnel who work with substances hazardous to health receive COSHH awareness training.
- Ensure that they familiarise themselves with the assessments in their area and are notified of any significant changes in the assessment.
- Ensure that control measures to prevent exposure are used and maintained.
- Ensure that arrangements are made to deal with accidents, incidents and emergencies and that these arrangements are communicated.

COSHH Assessors shall attend a one day training session, arranged through Staff Development, which on completion will ensure that they have sufficient knowledge and understanding of the legislative requirements of COSHH to be able to interpret information on substances and to conduct assessments in the workplace.

Health, Safety and Well-being Team shall offer assistance and guidance on these procedures.

All Employees shall familiarise themselves with the assessments for the processes/ substances they are using and follow the procedures for their safe use. They shall attend COSHH awareness training as required.

3 Control of Substances Hazardous to Health Assessment Procedure

To comply with the COSHH Regulations the procedure below shall be followed.

- Identify substances hazardous to health, as described in the introduction, through risk assessment.
- Obtain Manufacturer's Safety Data Sheets (MSDSs) for each substance.
- Carry out COSHH assessments (Appendix 1) using trained assessors, ensuring employees involved in the process are consulted.
- Work towards eliminating the hazard through substitution, segregation of the process or hazard and the use of engineering controls. If this is not possible, then the exposure shall be controlled at source through ventilation systems and organisational measures to reduce to a minimum the number of employees exposed and the duration of exposure. **The issue of personal protective equipment (PPE) shall only be as a last resort.**
- Ensure all containers are labelled and stored appropriately.
- Ensure assessments are recorded and communicated to all personnel involved in the process. Copies of assessments should be easily accessible within each area. Where possible an electronic version shall be stored on the intranet.
- Ensure appropriate air monitoring is carried out if indicated by the COSHH Assessment.
- Ensure health surveillance is available for personnel identified as at risk in the COSHH assessments.
- Ensure COSHH awareness training is given to personnel working with hazardous substances.
- Ensure engineering controls and ventilation systems are suitably maintained.
- Ensure training is given on the correct use of PPE.
- Review assessments on an annual basis or if there is a significant change to the process or after an incident/accident.

4 Local Exhaust Ventilation (LEV)

Introduction

The Control of Substances Hazardous to Health (COSHH) Regulations state that exposure to hazardous substances must be avoided completely, or where this is not practicable adequately controlled. Local Exhaust Ventilation (LEV) systems can provide a very effective means of exposure control. LEV is a ventilation system that takes dust, mists, gases, vapour or fumes out of the air so that they cannot be breathed in. Properly designed, used and maintained LEV will:

- Collect the air that contains the hazardous substances.
- Make sure they are contained and removed from the area.
- Clean the air (if necessary) and get rid of the contaminants safely.

There are many forms of LEV used within the College depending on the work being undertaken. It is essential that these systems are fit for purpose, as poor design specification, inappropriate additions, or lack of maintenance can make them inefficient. This section of the procedure and guidance provides assistance for the design of LEV systems and sets out requirements for their maintenance and testing.

4.1 Principles of LEV Design

(a) System Components

LEV systems should capture airborne contaminants at the point of generation, preventing inhalation by persons within that area. They vary in complexity, ranging from a simple single-point extract serving a single machine or process to complex multi-point installations serving several machines or processes. However, the basic elements are:

- A hood or collector to capture the contaminant close to the point of generation.
- Ductwork to convey the contaminant away from the source.
- A filter or air cleaning device to remove contaminant from the extracted airstream.
- A fan to provide the necessary air flow.
- Ductwork to discharge cleaned air to the external atmosphere at a suitable point.

(b) Process Considerations

To effectively remove contaminants from the work area each element of the LEV system must function properly. Poor design or maintenance of any one component will undermine overall performance and the ability of the system to control exposure. Efficient LEV systems are those designed to meet the requirements of a specific job or process and should take into account the following:

- How the task is carried out.
- Where and when the contaminant is being generated.

- Type of contaminant (dust, mist, fume, gas or vapour).
- Relevant physical properties (density, flash points).
- Workplace exposure limits.

These factors determine the specification of each system component, described in Section 4.1(a), and the air extract velocities required for efficient capture of the process contaminant and its transport through the cleaning device to the atmosphere.

4.2 Commissioning, Inspection and Maintenance

(a) Commissioning

Full commissioning by the competent contractor must be arranged as part of the design and installation agreement. The system should be proved to be capable of meeting its design specification. Appropriate details of airflow velocities and pressures must be verified and recorded to provide standard performance data for future reference.

A copy of the LEV commissioning details shall be sent to the Health, Safety and Well-being Team and the Buildings and Estates Support Team to ensure that the system has been added to the statutory testing programme.

(b) Statutory Examination and Testing

The COSHH Regulations specify that LEV systems must be subject to thorough inspection and test at prescribed intervals, usually not exceeding 14 months (in practice this is carried out within the college annually). Examination and testing shall be co-ordinated by the Building and Estates Support Team. Upon receipt of the test results, the Building and Estates Support Team shall forward a copy of the LEV report to the Head of Centre associated with that LEV system. The records shall be kept for at least 5 years.

The annual inspection and test includes a visual inspection and measurement of airflows which are compared to previous test results or the commissioning data. It determines whether or not performance has deteriorated significantly and whether or not the system is adequately controlling exposure to substances hazardous to health. It does not reveal the precise cause of any unsatisfactory performance and is therefore not a substitute for proper maintenance. However, the test report will often include recommendations, which departments should act upon.

Where a process has been suspended and the LEV equipment has not been tested as part of the statutory programme, the LEV must be isolated to prevent inadvertent use. If at a later date the equipment is to be brought back into service, it must be examined and tested to ensure that exposure to contaminants is still adequately controlled and the Health, Safety and Well-being Team notified so that the information can be updated for the next annual statutory test.

(c) Inspection and Maintenance

In addition to the annual test the COSHH Approved Code of Practice (ACOP) requires that LEV systems be given a visual check at least once a week. This regular checking ensures that the system is working properly and identifies potential problems before the LEV performance deteriorates (Appendix 2).

The scope of these weekly checks depends on the complexity of the system but may include a check of:

- The hood or inlet for a change of position or signs of damage.
- The condition of the ductwork.
- Signs of damage (or partial disconnection) in areas of flexible ductwork.
- Noise levels (increases may indicate turbulence, damage to mechanical bearings).
- Work area for signs of control failure (eg dust deposits).
- Cleanliness of the filter or filter bag, filter bins not over filled.
- Motorised filter shaking devices operational.

Records of these weekly visual checks, as well as any information relating to repairs or remedial work carried out as a result of them, shall be kept by the department with the copies of the annual test results.

COSHH also requires LEV systems to be maintained to a standard suitable for their purpose. If routine maintenance is neglected extract efficiency will deteriorate and mechanical parts may be liable to fail. As a minimum, the manufacturer's recommendations should be used as a guide to the maintenance regime. Departments shall have maintenance procedures in place to cover the range of LEV systems within their area.

The table below outlines common maintenance problems and effects on LEV performance.

ITEM	FAULT	EFFECT
Hoods	Bad position	Inadequate control
	Physical damage	Loss of control
	Blockages/closed dampers	Reduced airflow/loss of control
	Partial blockage	Airflow imbalanced/loss of control
Ducting	Damage or wear	Loss of air volume and control
	Blockage	Reduced air flow, inadequate control
Filters	Blockages	Reduced air flow, inadequate control
	Damaged filters	Pollutant release, inadequate control
	Incorrectly fitted	Pollutant release, inadequate control
	Incorrect filter cleaning	Blocked filters, inadequate control
Collectors	Damage or wear	Pollutant release, inadequate control
	Blocked/full	Reduced air flow, inadequate control

Fans	Damage/wear and build-up of contaminant on blades	Vibration, damage to bearings and motor, inadequate control
	Slipping drive belts	Reduced fan speed and air flow
	Incorrect electrical connection	Incorrect fan rotation, reduced or reversal of air flow
	Inadequate lubrication of bearings	Noisy operation, overheating and failure

4.3 Modifications to Existing LEV Systems

Additional extraction points must not be added unless the system is known to have the necessary extra capacity. Such alterations must be made by a competent contractor. Significant modifications, such as the addition of an extract inlet, will require the system to be re-commissioned and baseline data recorded for reference during future tests. A copy of the re-commissioning data should be sent to the Health, Safety and Well-being Team.

4.4 Waste Disposal







Suitable arrangements must be made for the disposal of material collected by filters or other air cleaning devices.

4.5 Training

Training on the use of the LEV System should be given to the users and should cover:

- The harmful nature of the substance used.
- How exposure may occur.
- How the LEV systems operates.
- Methods for ultimate performance.
- How to check the LEV is working
- The consequences of LEV failure.
- What to do if something goes wrong.

ASSESSMENT OF HAZARDOUS SUBSTANCES (COSHH REGULATIONS)

Product Name:					Date MSDS obtained:	
Supplier:						
Classification: (for other please specify)						
	Toxic	Harmful	Irritant	Corrosive	Flammable	Other
Workplace Exposure Limit: WEL	Yes / No	Details:				
Department where product is used:						
How is it stored?						
Description of Process: (mixing, pouring, brushing, spraying etc)						
Location:	Outdoors	Inside good ventilation	Inside poor ventilation	Confined space		
Quantity used:						
Duration of exposure: eg Hours /mins etc				Frequency: e.g. Daily/weekly etc.		
Are any hazardous substances produced? (Fume, dust etc)						
Who is exposed?	Staff	Learners	Visitors	Contractors		
Type of exposure? (hands, face, respiratory, eyes etc.)						

Description of control measures currently in place

Local Exhaust Ventilation		Eye protection		Respiratory protection	
Total or partial enclosure		Gloves		Overalls	
General workplace ventilation		Wet methods (to control dust)		Other	

Overall risk rating for process using matrix below:	Low	Medium	High
R (Risk) = L x S			
Low = 1 – 2 No further action required			
Medium = 3 – 4 Take action to reduce			
High = 6 - 9 Stop process, take action to reduce and inform H&S Team			
L = Likelihood			
3 = Highly Likely			
2 = Likely			
1 = Unlikely			
S = Severity			
3 = Serious Injury/Widespread loss injury			
2 = Minor injury/moderate loss			
1 = Slight or no injury/minor or non loss			

Is health surveillance required? Yes / No If yes please contact the H&S Team

Comments/Recommendations

Product Name:	
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Handling, Storage and Disposal Instructions (Safe system of work)	Max temp:	Min temp:	Shelf Life:

Emergency Procedures

Spillage	
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Fire Fighting Measures	
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First Aid Measures For Exposure
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Skin contact	
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Inhalation	
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Ingestion	
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Eye Contact	
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Date of Assessment: _____ **Assessors Name:** _____

Review Date: _____

APPENDIX 2

LEV		WEEKLY INSPECTION (VISUAL) RECORD SHEET					
Location					LEV No.		
Date	Condition of Item Satisfactory (✓)/Unsatisfactory (x)					Comments	Signed
	Hoods	Ducting	Filters	Collectors	Fans		
Actions taken:							

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