

HSS05: CONTROL OF SUBSTANCES HAZARDOUS TO HEALTH

INTRODUCTION

Using chemicals or other hazardous substances at work can put people's health at risk. Accordingly the *Control of Substances Hazardous to Health Regulations (COSHH)* requires employers to adequately control exposure of employees and others to hazardous substances so as to prevent ill health.

There are a series of basic control measures:

- Identify the hazards of the substances to be used or created.
- Consider the risks of the hazardous substances in terms of the planned use.
- Decide what precautions are needed.
- Prevent or adequately control exposure
- Ensure that control measures are properly used and maintained
- Where necessary conduct appropriate health surveillance
- Prepare to deal with accidents etc
- Ensure employees are properly informed, instructed and supervised

SCOPE

Hazardous substances in use at Airpro Systems (Holdings):-

1. Are commercial chemicals or supplied substances. These chemicals/substances have intended purposes and have been formulated accordingly.

The hazards have been researched and identified in accordance with the *Chemicals (Hazard Information and Packaging for Supply) Regulations (CHIP)*. The substance packaging includes labelling in accordance with an established convention and **Material Safety Data Sheets** are provided to those supplied with the chemicals.

These labels on the chemical package will, when COSHH is applicable, include orange warnings pictograms and essential hazard information.

The attached model **COSHH Assessment Form 1** in the **Appendix** is a simplified approach intended to be used with **Commercial Chemicals or Supplied Substances**.

MATERIAL SAFETY DATA SHEETS

These follow an established convention for content and terminology. To some extent the designer and manufacturer of the chemical has done a risk assessment to arrive at the general advice as to control measures – *when the chemical is used in the manner intended*. ('Exposure scenarios')

HOWEVER the manufacturer will never know with certainty how the product will be used.

KEY PERFORMANCE REQUIREMENTS

The Head of Service will ensure that:

1. All chemicals in use are identified and current MSDSs are available.
2. All methods of use have been considered and matched with selected appropriate chemicals.
3. The associated risks have been identified and evaluated.
4. The assessment is documented in line with P.J. Extractions Wales Ltd.'s required format and in accordance with the nature of chemicals in use.
5. Control measures have been identified and recorded.
6. Control measures have been implemented with maintenance arrangements.
7. Members of staff will be instructed and trained as appropriate to their roles, i.e:
 - Those undertaking the assessment
 - Those who identify and specify chemicals
 - Those who manage the use of chemicals
 - Those using chemicals
8. Review arrangements are established and implemented.

The **Appendix** to this document expands upon the above.

GUIDANCE

1. IDENTIFYING HAZARDOUS SUBSTANCES

Information must be collected about:

- Substances to be used in the work;
- Substances released from the work (including those that are leaked or spilled and those forming fumes, vapours and aerosols);
- Substances created from the work, including waste materials and residues.

For substances used in the work, it can be identified whether or not the substance is hazardous from the **material safety data sheet** (MSDS)

MSDSs typically provide information about:

<ul style="list-style-type: none"> • Chemical Identification and names • Composition and information on ingredients • Hazards identification on labels • Toxicological information • Ecological information • Exposure controls and personal protection • Handling and storage 	<ul style="list-style-type: none"> • Disposal information • Physical and chemical properties • Stability and reactivity • First aid measures • Fire fighting measures • Accidental release measures • Transport information • Regulatory information • Additional information
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The MSDS for a substance must by law be provided by the supplier of the substance.

Under COSHH there are a range of substances regarded as hazardous to health:

- Substances or mixtures of substances classified as dangerous to health under the Chemicals [Hazard Information and Packaging for Supply] Regulations (*CHIP*). These can be identified by their orange warning label.
- Substances with workplace exposure limits (*WELs*)
- Bacteria and other micro-organisms
- Dust at high concentration

2. CONSIDERING THE RISKS

You must consider the extent to which the hazardous substances you use are a risk to the health of individuals who are:

- Directly involved in the work, and/or
- In the vicinity of the work but not necessarily directly connected with it.

To decide whether a risk of exposure is significant or otherwise you need to consider each of the following factors:

- What are the hazardous properties of the substance?
(eg. corrosive, harmful, irritant, toxic)
- What types of exposure to the hazardous substance will occur?
(eg. as vapour, liquid or solid)

- Where the hazardous substance is to be used?
(eg. Sheltered housing schemes, sites, workshop)
- How much of the hazardous substance will be used?
(eg. milligrams or kilograms, millilitres or litres)
- Who could be exposed to the substance and could some suffer more than others? (eg. pregnant, immuno suppressed)
- For what periods of time will exposure to the hazardous substance occur?
(eg. seconds or hours)
- How often will the hazardous substance be used?
(eg. once only, or each and every day)
- Are there specific factors that might affect the hazardous substance?
(eg. temperature, light)

It is important to note that the assessment of risk must take into account not only the planned work but also the unplanned but foreseeable events such as accidental release of a substance caused by human error or the failure of equipment used in the work.

If the initial assessment reveals that there is no risk to health, or that the risk is insignificant, the assessment is complete. No more action need be taken until the assessment is reviewed.

If, however, the assessment reveals that risks to health are significant, it must now be decided as to how the risks are to be removed - or reduced - so that exposure to the hazardous substance becomes acceptable.

A record should be made of the risk assessment at this stage to show the main findings. Its detail should be sufficient to explain how the view has been arrived at that the risk is significant; the need for control measures; and the actions that people need to take to control exposure to the hazardous substance.

3. ADOPTING CONTROL MEASURES

Prevention of exposure to hazardous substances is the primary objective. It could be achieved by:

- Replacing the hazardous substance used with that which is not hazardous;
- Using the substance in a safer form
- Modifying the work so that hazardous substances are no longer released or created.

However, in many cases, approaches aimed at complete prevention of exposure are simply not possible.

In these cases exposure must be controlled to a level that most people could be exposed to, day after day, without adverse health effects.

Control of exposure can be achieved through the following approaches in descending priority:

- Completely enclosing the process and hazardous substances within it;
- Partially enclosing the process and hazardous substances and providing local exhaust ventilation (LEV) (eg. booths, hoods);
- Using general instead of local exhaust ventilation;
- Adopting methods which reduce the likelihood of accidental or incidental spillage or leakage of hazardous substances;
- Reducing the number of people exposed or the duration of their exposure to hazardous substances;
- Providing personal protective equipment (PPE).

The use of PPE is only permitted to achieve adequate control if other means cannot be used alone.

However PPE might be used with higher priority control measures if this further reduces the likelihood of exposure, eg. through accidental spillage or release.

For many substances advice on exposure control is given in the material safety data sheet (MSDS).

This may mean that if the substance is to be used for manufacturers intended use, and that if the MSDS advice on control methods is adopted, exposure may normally regarded as being adequately controlled.

4. USING AND MAINTAINING CONTROL MEASURES

The methods employed to control exposure must be:

- **Properly used** All those to work with the substance must be fully-informed, instructed and trained to make proper use of control measures.
- **Maintained** To remain in efficient working order and in good repair the measures should be checked as appropriate. This will include personal protective equipment, storage facilities and ventilation arrangements. Where regulation requires this maintenance, it will need to be carried out by a suitably competent person.
- **Recorded** Instruction, checks and examinations must be the subject of records. The records for the maintenance of ventilation equipment must be retained by those responsible for the activity for at least 5 years.

5. MONITORING EXPOSURE

It must be ensured that the methods employed to control exposure actually achieve the planned reduction in exposure.

Where the hazardous substance is a solid or liquid and potential exposure is to the skin or eyes only, PPE would usually be expected to achieve the desired control. In these cases, measurement is not normally necessary.

Where potential exposure is by inhalation over extended working periods then COSHH (Schedule 5) requires that the concentration of hazardous substances in the air should be measured.

This is especially important where:

- Deterioration or failure of the methods of control would be a serious risk to health;
- It is suspected that the method of control may not be working properly;
- There is doubt even with the control method in place that the exposure limits are being achieved.

6. MONITORING AND HEALTH SURVEILLANCE

Health surveillance must be carried out in the following circumstances:

Case 1 all three of the following occur:

1. Staff are exposed to a hazardous substance which is known to be linked to a particular disease or have an adverse effect on health;
2. Under the normal working conditions there is a reasonable likelihood that the particular disease or adverse effect will occur;
3. The disease or adverse effect can be detected.

Case 2 both of the following occur:

1. Processes listed in Schedule 6 of COSHH are involved;
2. There is a likelihood of significant exposure of staff to the substance listed in the Schedule.

Simple health checks may be made by a person trained to do this. A 'health record' of health surveillance must be kept for at least 40 years.

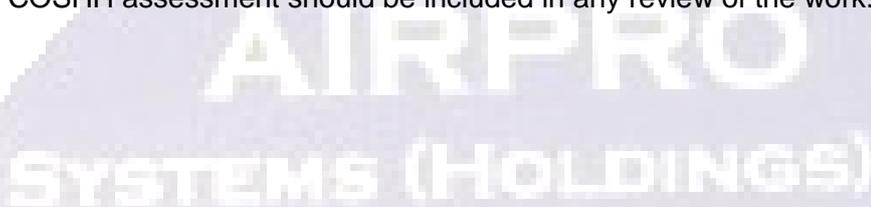
7. INFORMATION, TRAINING AND SUPERVISION

Instruction and training must be provided for all staff about the:

- Nature of the substances they will work with and the risks to their health created by exposure to it;
- Precautions they should take;
- Control measures provided, their purpose and how they will be used and checked;
- Exposure to be monitored and the meaning of the results;
- Health surveillance to be undergone and the meaning of their results;
- Emergency procedures in place.

Staff are required to make proper use of control measures and to report defects. Provision to them of suitable information and training should ensure that they do this.

Once an assessment has been completed, this should not be thought of as the end of the process since it will be more than likely that a review of the work or of the substances used in it will occur from time to time. A review of the COSHH assessment should be included in any review of the work.

The logo for AIRPRO SYSTEMS (HOLDINGS) is displayed in a large, light blue, semi-transparent font. The text is arranged in two lines: "AIRPRO" on the top line and "SYSTEMS (HOLDINGS)" on the bottom line. The background behind the text is a dark blue, trapezoidal shape that tapers towards the bottom.

COSHH Risk Assessment No: CRA{No.}



Department: _____ Establishment/Section: _____

Describe the activity or work process.
(Include how long and how often this is carried out and the quantity of substance used)

Location of process being carried out?

Identify the persons at risk: Employees (including trainees) Contractors Public (including students)

Name the substance involved in the process and its manufacturer.
(A copy of a current safety data sheet for this substance should be attached to this assessment)

Classification (state the category of danger)

	<input type="checkbox"/> Environmental		<input type="checkbox"/> Corrosive		<input type="checkbox"/> Toxic
	<input type="checkbox"/> Flammable		<input type="checkbox"/> Irritant		<input type="checkbox"/> Long term health
	<input type="checkbox"/> Pressurised Gas		<input type="checkbox"/> Oxidising		<input type="checkbox"/> Explosive

Hazard Type

Gas
 Vapour
 Mist
 Fume
 Dust
 Liquid
 Solid
 Other (State) _____

Route of Exposure

Inhalation
 Skin
 Eyes
 Ingestion
 Other (State) _____

Workplace Exposure Limits (WELs) please indicate n/a where not applicable

Long-term exposure level (8hrTWA): n/a Short-term exposure level (15 mins): n/a

State the Risks to Health from Identified Hazards

Control Measures: (for example extraction, ventilation, training, supervision). Include special measures for vulnerable groups, such as disabled people and pregnant workers. Take account of those substances that are produced from activities undertaken by another employer's employees.

Is health surveillance or monitoring required? Yes No

Personal Protective Equipment (state type and standard)

 <input type="checkbox"/>		 <input type="checkbox"/>	
Dust mask		Visor	
 <input type="checkbox"/>		 <input type="checkbox"/>	
Respirator		Goggles	
 <input type="checkbox"/>		 <input type="checkbox"/>	
Gloves		Overalls	
 <input type="checkbox"/>		 <input type="checkbox"/>	
Footwear		Other	

First Aid Measures

Storage

Disposal of Substances & Contaminated Containers

Hazardous Waste Skip Return to Depot Return to Supplier Other

(If Other Please State):

Is exposure adequately controlled? Yes No

Risk Rating Following Control Measures

High Medium Low

Assessed by: _____ Date: _____ Review Date: _____