



Control of Substances Hazardous to Health Regulations Risk Assessment Form

FORM HS1 (Complex activities or high hazard materials)

Complete this form in conjunction with the general COSHH Notes, which form a separate document.

http://www.docs.csg.ed.ac.uk/Safety/ra/COSHH_Notes.pdf

This form must be completed **prior** to the commencement of work involving a hazardous substance, other than a biological agent*, in order that a suitable and sufficient assessment of health risks is made. **(*For assessment of work involving biological agents use form [BA1](#))** The person undertaking this assessment must be competent to do so (see notes). Following the completion of this risk assessment the appended Safe System of Work Form should be completed, its content conveyed to the users of the hazardous substances and record of their acceptance gained in the appropriate declaration section.

| | | | |
|------------------------|--|-------------|--|
| School/Management Unit | | Assess. No. | |
| Title of Activity | | | |
| Location(s) of Work | | | |

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|----------------------------|
| Brief description of work: |
|----------------------------|

HAZARD IDENTIFICATION: Ensure that Safety Data Sheets have been obtained from the supplier for all proprietary (commercial) substances. Where the substance is produced as a result of the activity check its hazardous properties and exposure routes (see notes).

I. Name the substance or group of substances to be used, or produced, in the above activity and list in the left column below. Where the substance presents an inhalation hazard and has been assigned an Workplace Exposure Limit (WEL), state this. (See notes on EH40)

II. 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). III. State any Hazard statements denoted in the SDS (pre 1st December 2010 state risk phrases (CHIP classification and labelling)).

| HAZARD RATINGS | | |
|---|---------------------------|-------------------------------|
| I. Name of chemical(s) or substances | II. Classification | III. Hazard statements |
| | | |

Continue on separate sheet, if necessary

Exposure route(s) by which harm may occur. Tick the relevant boxes (✓)

| Skin Contact | Skin Absorption | Eye Contact | Inhalation | Ingestion | Injection via sharps |
|--------------|-----------------|-------------|------------|-----------|----------------------|
| | | | | | |

Grounds for Concluding (at this stage) that Exposure is Not a Risk to Health. Tick relevant boxes.

| | | |
|---|-----|----|
| Can the desired result of the above activity be accomplished by use of a methodology that does not require the use of hazardous substances? | Yes | No |
| | | |

If yes, implement the alternative method and conclude the assessment now by completing the declaration at the end of the form. If the above does not apply continue with the assessment.

| | | |
|---|-----|----|
| Taking cognisance of the above hazard classification, available exposure routes, quantities and/or rate of use of the substance(s) it is concluded that exposure to the above harmful substances is too small to constitute any risk to health under foreseeable circumstances of use, even if control measures break down: | Yes | No |
| | | |

If the above applies conclude the assessment now by completing the declaration at the end of the form. If the above does not apply continue with the assessment.

Exposure Prevention or Control Measures. Tick relevant boxes

| | | |
|---|-----|----|
| Can any of the hazardous substances listed above be substituted for another, less hazardous, substance that either eliminates, or reduces risk to health? | Yes | No |
| | | |

If yes, you **must** implement the use of the non-hazardous, or less hazardous, substance. In the case of the latter you must assess any remaining residual risk.

Engineering Control Measures

| | |
|---|--|
| The work can be carried out safely on the open bench without use of control measures <i>N.B. Inhalation risk must be insignificant</i> | |
| The work can be carried out on the open bench but Local Exhaust Ventilation (LEV) 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: | |
| | |

| | | |
|--|-----|----|
| Where engineering controls are used e.g. fume cupboards, LEV, etc. are these subject to a formal performance test, at least every 14 months, and records kept? <i>If no, this must be arranged (see notes).</i> | Yes | No |
| | | |
| 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 | Yes | No |
| | | |

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*)

The following type(s) of PPE will be required for part or all of the activity.

Tick appropriate box (✓)

| | | | | | |
|--|--------------------------|--------------------------|--------------------------|----------------------------|--------------------------|
| Eye protection | | Face protection | | Hand protection | |
| Respiratory protection | | Specialist clothing | | Other | |
| Specify the type(s) and grade(s) of PPE to be worn: <i>(tick as appropriate)</i> | | | | | |
| Eye protection: | | | | | |
| Safety spectacles. | <input type="checkbox"/> | Impact res. Goggles. | <input type="checkbox"/> | Chemical res. Goggles. | <input type="checkbox"/> |
| Face protection: | | | | | |
| Impact res. faceshield. | <input type="checkbox"/> | Chemical res. faceshield | <input type="checkbox"/> | Faceshield with chin guard | <input type="checkbox"/> |
| Hand protection: | | | | | |
| Disp. Glove | <input type="checkbox"/> | Disp. Gauntlet | <input type="checkbox"/> | Reusable glove | <input type="checkbox"/> |
| | | | | Reusable gauntlet | <input type="checkbox"/> |
| Check chemical resistance chart (see notes) for suitable glove material type e.g. <i>nitrile, pvc, pva, neoprene, cryogenic, natural rubber</i> and enter here | | | | | |
| <input type="text"/> | | | | | |

| | |
|--|-------------------------------|
| Respiratory protection: (see notes) | |
| Disp. Respirator (particulate/water based mists only). | Protection level (P1, P2, P3) |
| Reusable half-face respirator | Full-face respirator |
| | Powered hood |
| Check manufacturers Filter Selection Chart for filter and level of protection required <i>e.g. A-organic vapour, B-inorganic vapour, E-Acid gas, K-ammonia, P-particulate, AP-organic vapour + particulate</i> , and enter filter type or combination here. | |
| Breathing apparatus (BA): | |
| This is specialist equipment that must only be used by those that have been specifically trained and certificated as competent to use by an authorised trainer. If this equipment is to be used enter below the name(s) of the certificated persons. | |
| | |
| | |
| Important: Wearers of Respiratory Protective Equipment (positive or negative pressure) that relies on a tight fit to the face in order to protect the wearer must be individually face-fit tested to specific items of equipment using a quantitative test method and a certificate of pass obtained before the wearer can work with hazardous substances | |
| Further detail can be accessed at: http://www.ed.ac.uk/schools-departments/health-safety/guidance/ppp | |
| Special clothing: | |
| Cotton Coverall | Disposable coverall |
| | Chemical coverall |
| Laboratory coat | Howie coat |
| | Disp. Apron |
| | other |
| If other, state: | |

Specify when during the activity the item(s) of PPE must be worn:

N.B. Non-disposable items of PPE must be inspected regularly and records retained for inspection

Health Monitoring

| | | |
|---|-----|----|
| Is biological monitoring required to ensure that the control of exposure to the hazardous substance(s) is adequate? * | Yes | No |
| | | |
| Is health surveillance required for the protection of the health of employees? * | | |

* This is required if the employee is working with respiratory or skin sensitisers, see:

<http://www.hse.gov.uk/asthma/substances.htm> or substances assigned hazard statements H317 or H334 (risk phrases R42 or R42/43 under CHIP). If yes, health surveillance must be arranged via the Occupational Health Unit (50-8190)

Instructions for the Work Activity. Tick relevant boxes

| | |
|--|--|
| The work activity consists of well documented routine procedures carried out frequently in a controlled environment and requiring only simple and easily understood instructions | |
| The work activity contains procedures requiring a specific scheme of work (safe system) * | |

| |
|--|
| * Scheme of work; either summarise below or give reference to an <u>attached</u> document: |
|--|

Training. *Tick relevant box*

| | |
|---|--|
| The activity is of such a simple nature and of such low risk that no special training is required | |
| The activity requires specific training to ensure that it is carried out safely * | |
| * Specify training to be given: | |
| Individual training records must be retained for inspection | |

Supervision. *Tick relevant boxes (√)*

| | |
|--|--|
| The supervisor will approve straightforward routine work | |
| The supervisor will specifically approve the scheme of work | |
| The supervisor will provide personal supervision during the activity | |

Implications for Persons Not Involved in the Work Activity. *Tick relevant boxes*

Identify any persons in the following groups, not directly involved with the work activity that may be at risk from the hazards of the activity.

| | | | | | |
|------------------------|--|---------------------|--|-----------------------|--|
| Academic staff | | Technical staff | | Postgraduate students | |
| Undergraduate students | | Maintenance staff | | Administrative | |
| Cleaning staff | | Emergency personnel | | Contractors | |
| Visitors | | Others | | | |

Persons identified above may require to be informed, in part or in full, of the information contained in this risk assessment.

Emergency Procedures. *Tick relevant boxes*

| | Yes | No |
|---|-----|----|
| Written emergency instructions are provided at the work site(s) | | |
| Emergency contact names and telephone numbers are provided at the work site(s) | | |
| Materials for neutralising spills of chemicals are available | | |
| Proper and sufficient spill kits are available | | |
| A person with the appropriate training and knowledge has been appointed to deal with spillages of particularly hazardous substances * | | |
| * <i>Specify whom and how they are to be contacted</i> | | |

The operator knows how to summon, if applicable, the following personnel. *tick relevant box*

| | | | | | |
|-------------|--|------------------|--|-----------------------------|--|
| First aider | | In house BA team | | External emergency services | |
|-------------|--|------------------|--|-----------------------------|--|

The location of the following, if applicable, is known to the operator. *tick relevant boxes*

| | | | | | |
|----------------------|--|-------------|--|---------------|--|
| Eye irrigation point | | Body shower | | First aid box | |
|----------------------|--|-------------|--|---------------|--|

Disposal of Waste Residues. *Tick relevant boxes*

| | |
|--|--|
| Disposal of waste hazardous substances will be done by one of the following methods. | |
| Flushing to drain after rendering harmless to persons or the environment | |

| | |
|--|--|
| To general waste collection after rendering harmless to persons or the environment | |
| Via a recognised hazardous waste disposal contractor | |

Specify any other disposal method

If in doubt contact the University Waste and Environmental Manager Ext. 514287.

| | | |
|--|-----|----|
| Are you satisfied that the control measures outlined above are adequate to control the risks to health from the hazardous substances used in the work activity described to the lowest level reasonably practicable? | Yes | No |
| | | |

Only if the answer to the above question is 'Yes' should you proceed to sign off this assessment and formulate a Safe System of Work. If the precautions specified (above) in this form do not adequately control the risks of handling the hazardous substances involved in the work activity, re-assess, or specify below the additional precautions required:-

You are reminded that COSHH only addresses the risk to health from exposure to hazardous substances it does not address the hazards of fire and explosion. These 'danger' aspects must be risk assessed in accordance with the requirements of the Dangerous Substances and Explosive atmospheres Regulations (DSEAR) 2002. This can be done with the aid of the notes and form available at: <http://www.ed.ac.uk/schools-departments/health-safety/guidance/hazardous-substances> . If desired the DSEAR assessment can be undertaken in tandem with this COSHH assessment by cutting and pasting relevant sections of that form, in Word format, to this one.

Accreditation and Verification of COSHH Assessment

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.

| | | | |
|--------------|--|-------------|--|
| Assessed by: | | Checked by: | |
|--------------|--|-------------|--|

| | | | |
|------------|--|------------|--|
| Signature: | | Signature: | |
| Date: | | Date: | |

This assessment should be reviewed at regular intervals and immediately if there is reason to suspect that it is no longer valid (for example after any accidents or incidents) or if there is a significant change in the work to which it relates.

NOTE: The Safe System of Work Form (Appended to this form) should be used to inform users of the main hazards and the precautions, or procedures that must be taken/followed during a particular work activity to reduce risk. Reference should be made to this master assessment (HS1) and where it can be viewed. Persons involved in, or affected by, the work with hazardous substances should sign the SSW Form, in the relevant declaration box.

Review of Assessment

When the assessment is reviewed, as before, add below the signature of the assessor and the person responsible for work in that area of the Department. If the activity has materially changed in any way then a new assessment should be undertaken and a new assessment form completed. Any original signatories covered by the modified assessment should sign again.

| | | | |
|--------------|--|-------------|--|
| Assessed by: | | Checked by: | |
| Signature: | | Signature: | |
| Date: | | Date: | |



Control of Substances Hazardous to Health Regulations

Safe System of Work Form (Activities not involving biohazards)

FORM HS1 Appendix (Complex activities or high hazard materials)

This form should be used to convey to the user the Safe System of Work, derived from the risk assessment (Form HS1). The user must be aware of the following information regarding the hazardous properties of the substances to be used and must follow the instructions outlined in order to ensure that the activity is carried out safely and with minimum risk to their health, or that of others who may be affected by their acts or omissions

| | | | |
|------------------------|--|-------------|--|
| School/Management Unit | | Assess. No. | |
| Title of Activity | | | |
| Location(s) of Work | | | |

Title (synopsis) of work activity:

Master risk assessment is located at: (state where master assessment can be readily accessed)

Safety Data Sheets for the substances used in the activity can be located at: (state where SDS can be readily accessed)

I. Hazardous substances used, or produced, in this activity. **II.** The substances have been assigned the stated hazard classification. An airborne hazard that can also be absorbed through skin is denoted (Sk); a respiratory sensitiser (Sen). **III.** The substances have been assigned these standard hazard statements (risk phrases).

| HAZARD RATINGS | | |
|--------------------------------------|--------------------|------------------------|
| I. Name of chemical(s) or substances | II. Classification | III. hazard statements |
| | | |

During the activity the substances have the potential to harm health via the exposure routes below;

(Tick the relevant boxes) (✓)

| Skin Contact | Skin Absorption | Eye Contact | Inhalation | Ingestion | Injection via sharps |
|--------------|-----------------|-------------|------------|-----------|----------------------|
| | | | | | |

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

Mechanical Controls that must be used during all, or part of the work activity (tick box)

| Local exhaust ventilation (LEV) | Fumecupboard | Glovebox |
|---|--------------|----------|
| | | |
| Detail type (e.g. cupboard with water wash down, HEPA filtration, etc.) and when to be used in activity | | |

Personal Protective Equipment (PPE) that must be worn during all, or part of the work activity (tick box)

| Laboratory coat | Coveralls | Gloves | Safety glasses | Goggles |
|-----------------|-----------------------|----------------------|----------------------|---------------------|
| | | | | |
| Face-shield | Disposable respirator | Half-face respirator | Full-face respirator | Breathing apparatus |
| | | | | |

Important: If you are required to wear a respirator that relies on a tight fit to your face for protection you must have been previously quantitatively face-fit tested and a certificate of pass obtained from a competent tester.

<http://www.ed.ac.uk/schools-departments/health-safety/guidance/ppe/rpe>

Detail the type of PPE to be used and when in the work activity. *Include details such as glove material, respirator filter type, etc.*

Detail a safe system of work (how the activity is to be undertaken with the minimum of risk). Enlarge box in Word format, or continue on separate sheet if necessary.

Detail any procedures to be followed in case of emergency (accident, spillage, accidental release, etc.)

| |
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Detail waste disposal procedures

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| | | |
|---|------------|-----------|
| The risk assessment has identified that you will be exposed to substances that are designated as respiratory or skin sensitisers you are therefore required to contact the Occupational Health Unit (50 8190) to arrange health surveillance | Yes | No |
|---|------------|-----------|

Declaration by operative involved in the activity detailed above which involves the use of hazardous substances.

I fully understand the activity outlined above and the risk control measures that I must implement, use, or wear. I have received sufficient information, instruction and training so as to enable me to conduct this activity with the minimum of risk to myself, or others.

| NAME: Please print | SIGNATURE | DATE |
|--------------------|-----------|------|
| | | |
| | | |
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Declaration by supervisor, or other responsible persons, issuing this Safe System of Work

I have undertaken, or authorised as suitable and sufficient the risk assessment allied to this SSW. I am satisfied that if the procedures outlined above, along with any control measures stipulated, are adhered to and implemented, that the risk to both those directly involved in the activity and any others who may be affected by it, will be at a level that is the lowest reasonably practicable to achieve.

Safe System of Work issued by:

| | |
|------------------|--|
| Signature: | |
| Print name: | |
| Date SSW issued: | |

NB. This SSW should be reviewed, renewed, or reissued in line with any alterations to the allied risk assessment due to review.