COSHH assessment form

Record Ref N°……..

School/ Department: | **Area/Process/Project:**

DATA (Tick / insert data from MSDS or other source) Please append the supplier's MSDS to this assessment or state your alternative reference source								**RISK RATING (Use tables 1,2,3 in App.B)**	
CHEMICAL NAME: _____ **W.E.L.** _____		Very toxic	Toxic	Corrosive	Irritant	Harmful	Flammable	**Toxicity Rating** Class ___	**RISK:** (Circle response) 1. EXTREME 2. HIGH 3. MEDIUM 4. LOW
Risk Phrases: 1. 2. 3. 4.	Safety Phrases: 1. 2 3 4	Amount used (kg or l / day)	Physical state	Period of use (hrs/day	Is containment:		Routes of exposure:	**Exposure Potential** (Circle response) L M H	
CHEMICAL NAME: _____ **W.E.L.** _____		Very toxic	Toxic	Corrosive	Irritant	Harmful	Flammable	**Toxicity Rating** Class ___	**RISK:** (Circle response) 1. EXTREME 2. HIGH 3. MEDIUM 4. LOW
Risk Phrases: 1. 2. 3. 4.	Safety Phrases: 1. 2 3 4	Amount used (kg or l /day)	Physical state	Period of use	Is containment:		Routes of exposure:	**Exposure Potential** (Circle response) L M H	
CHEMICAL NAME: _____ **W.E.L.** _____		Very toxic	Toxic	Corrosive	Irritant	Harmful	Flammable	**Toxicity Rating** Class ___	**RISK:** (Circle response) 1. EXTREME 2. HIGH 3. MEDIUM 4. LOW
Risk Phrases: 1. 2. 3. 4.	Safety Phrases: 1. 2 3 4	Amount used (kg or l / day)	Physical state	Period of use	Is containment: Closed ☐ Semi closed ☐ Open ☐		Routes of exposure: Skin ☐ Inhaled ☐ Ingested ☐	**Exposure Potential** (Circle response) L M H	

Comments based on the conditions of use:

Method of use:

……
……
……
……

Present containment:

……
……
……

Current work practices

……
……
……

Result of air monitoring (if relevant):

……

Other hazards and considerations

This document forms part of Loughborough University's health and safety policy

☐ electrical ☐ mechanical ☐ fire ☐ explosion ☐ radiation ☐ Other specify……..

Assessment conclusions:

Use existing written protocol or any instruction as specified below **(Attach a copy of the protocol to this COSHH assessment.)**	☐	**Do not use or substitute for a less hazardous material**	☐

Details of modification of work practices/substitution etc:

Special precautions/control measures/PPE:

Special storage/handling:

Disposal method:

Procedure in the event of a spillage:

First aid:---

Further air monitoring required:

Written protocol required:

Existing protocol to be referred to:

Health Surveillance (where applicable):

1.Persons identified_____

2.Type of surveillance_____

3 Date of referral to OH Advisor_____

Date: **Assessor's Signature:** **Review Date:**

Student's Signature:

Guidance on completing the COSHH assessment form

General points for consideration:

1. An assessment of the risk of exposure, its nature and its degree needs to be made and recorded on the standard COSHH assessment form. **NB:** Schools / Departments may elect to record their assessments using other approved formats such as electronic databases. Approval for the use of alternative records must be obtained from the University Health and Safety Service (H&SS).

2. Dependent on outcome of the assessment the substance may need to be replaced by a less harmful substance or failing this, to be used in a closed system. Or where this is not technically possible the exposure must be reduced to as low a level as is possible.

3. Suitable procedures need to be formulated to deal with any situations of abnormal exposure or emergency conditions that are in any way foreseeable.

4. Appropriate monitoring should be instigated as necessary to determine any occupational exposure and this will be co-ordinated by the H&SS. Appropriate health surveillance procedures need to be adopted and initially this should be discussed with the H&SS who will co-ordinate and advise as necessary, with the University Occupational Health Advisor.

5. Adequate information concerning the hazardous nature of the substance and risks to health needs to be obtained and the H&SS will provide such information if this is not available from departmental sources as well as training and instruction necessary to individuals if requested by the School / Department.

Steps to risk assessment

Step 1 Identify all hazardous substances that fall within the meaning of section 4b of COSHH.

Step 2 Obtain sufficient information to enable an assessment to be made – use the supplier's MSDS, information in HSE guidance EH40/2005 or other reputable reference source.

Step 3 consider the hazards of the substance and assign a hazard classification (low – extreme) based on table 1(your data sheet will provide toxicity data. Risk phrases and information indicating if the substance is harmful, irritant, corrosive, toxic or very toxic.

Step 4 assess the exposure potential for the material based on the amount used, its volatility/physical form and the manner in which it is handled and used – see table 2.

Step 5 use the two pieces of information derived from tables 1 and 2 to identify the risk classification according to the matrix shown in table 3.

Step 6 determine appropriate control measures and implement these effectively.

Table 1 Toxicity/Hazard rating - Guidelines for determining hazard categories

Classification	Description of this classification
Class 1 **EXTREME**	**See list below ***
Class 2 **HIGH**	**Any substance defined by CHIP as toxic after repeated or prolonged exposure and given the risk phrase R48 or which meets the same toxicity criteria – see HSE publication L131: Approved Classification and Labelling Guide (Sixth edition). Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (CHIP 4). Approved Guide** **Any harmful substance given the risk phrase R68 (possible risk of irreversible effects** **Any corrosive substance given the risk phrase R35**
Class 3 **MEDIUM**	**Any substance defined by CHIP as Harmful or Irritant (Given the symbol Xn or Xi) R20, R21 R22, R65)** **Any corrosive substance given the risk phrase R34**
Class 4 **LOW**	**Low toxicity or not subject to any labelling criteria defined by CHIP but still potentially harmful**

*** categories of substances with EXTREME classification:**

1. A **carcinogen**; that is a substances that is described by the Risk Phrase R45 "may cause cancer" or R49 "may cause cancer by inhalation", or R40 (Limited evidence of a carcinogenic effect) or that is described in other reliable sources as a cancer suspect agent.

2. All **mutagens** i.e. all substances with Risk phrase 46 or 68 or other substances believed to have similar properties

3. **Very toxic (T+) or poison**; substances that are described as Very Toxic (by the criteria given in the HSE publication: Approved Classification and Labelling Guide L131) or as poisons (*e.g.* Risk Phrases R23 to R29, R31-R32). This is especially applicable to those agents that are acutely toxic because here a single dose can cause serious damage. **Compounds of unknown toxicity should be included in this group**.

4. **A Sensitizer** i.e. Risk Phrases R42 or R43

5. **Explosive**; (*e.g.* Risk Phrases R1 to R6, R9, R16, R44) this term would cover any endothermic compounds which can detonate, *e.g.* many solid or gaseous diazo compounds, some compounds containing nitro, nitroso or other groups which make oxygen available to carbon or hydrogen in the compound, or solutions which contain fuel/oxidant mixtures, *e.g* silver perchlorate in ethanol (perchlorates have caused many accidents and all work with solid perchlorates, perchlorates in organic media, or with perchloric acid except in <4M aqueous solution, requires elaborate safety precautions).

6. **Normally pyrophoric**; (*e.g.* R17) this would definitely include silane or phosphine or potassium metal. Substances like lithium aluminium hydride which can be pyrophoric but which are frequently handled without catching fire, can be classified as class 2 if workers have sufficient experience/knowledge.

7. **Described by any of these Risk phrases (or combinations):**

R33	Danger of cumulative effects
R39	Danger of very serious irreversible effects
R47	May cause birth defects
R48	Danger of serious damage to health by prolonged exposure
R60	May impair fertility
R61	May cause harm to the unborn child
R62	Possible risk of impaired fertility
R63	Possible risk to the unborn child

Table 2 - Typical basis for estimating exposure potential

		Score		
		1	**10**	**100**
A	**Quantity of substance**	Less than 1g	1-100g	100g+
B	**Physical state**	dense solids; non-volatile liquid; no skin absorption	Dusty solids, lyophilised solids, volatile liquids, low skin adsorption	Gases, highly volatile liquids, aerosols, solutions that promote skin absorption
C	**Characteristics of operation**	Then material is predominantly used in an enclosed system with a low chance of mishap	Partially open system, low chance of mishap	No physical barrier: Any operation where the chance of mishap is medium or high

Exposure potential is estimated by multiplying the individual scores **A x B x C.**

Score A x B x C	**Exposure Potential**
< 1000	Low
1000 - 10000	Medium
> 10000	High

Note:
Time factors, such as frequency and duration of the activity should also be considered. Short duration tasks, involving a few seconds exposure at infrequent intervals, should not affect the initial estimate, whereas continuous operations on a daily basis would probably raise the estimate to the next higher category.

Table 3 - Classification of risk and identification of containment regime/control measures

(NB: Risk = Hazard X Exposure potential)

	Exposure potential (see table 2)		
Hazard (see table 1)	Low	Medium	High
Extreme	**Extreme**: address this case individually	**Extreme**: address this case individually	**Extreme**: address this case individually
High	**Medium**	**High**	**High**
Medium	**Low**	**Medium**	**Medium**
Low	**Low**	**Low**	**Low**

Containment regimes determined from the above RISK

RATING: Low Open bench/environment

Medium General fume cupboard (or other specially vented area)

High Specified fume cupboard

Extreme Unique arrangements must be put in place which meet the highest level of containment practicable **and which must not permit exposure over a Workplace Exposure Limit (WEL).** It is necessary to specify any additional controls required to use this material safely. The assessor must discuss these controls with the persons exposed to the substance. Monitoring must be carried out to ensure that the controls are effective. If there is reason to doubt the adequacy of the containment to control the risks further advice should be

obtained (e.g. from an occupational safety and health specialist). This assessment must be reviewed annually and countersigned by another COSHH assessor.