



This form is to be used in conjunction with the Environment Health and Safety Manual Procedure 3.2 Hazard Identification, Assessment and Control - Application.

## Information of Activity

Activity: Use of balances to weigh out toxic chemicals Location: Chemistry

Identified by: G. Papadopoulos Date: 10/11/06

Identified Hazard / Aspect: Exposure to toxic chemicals

## Risk Analysis matrix – level of risk

Identified Hazards	Risk Assessment			Risk Score	Risk Level
	Exposure (E)	Likelihood (L)	Consequence (C)	E x L x C	
Exposure to research compounds (unknown toxicity)	2	0.3	5	3	M
Exposure to toxic chemicals	2	0.3	5	3	M

Definitions							
Exposure	E	Likelihood	L	Consequence	C	Risk Score	Hierarchy of Risk Controls
Continuously	10	Almost Certain	1.0	Catastrophic	20	<b>E</b> >20 <b>H</b> >10 <b>M</b> 3-10	<b>Elimination</b> is a permanent solution and should be attempted in the first instance.
Frequently	6	Likely	0.6	Major	10		<b>Substitution</b> involves replacing the hazard or environmental aspect by one of lower risk.
Occasionally	3	Possible	0.3	Moderate	5		<b>Engineering</b> controls involve physical barriers or structural changes to the environment or process.
Infrequently	2	Unlikely	0.1	Minor	2	<b>L</b> < 3	<b>Administrative</b> controls reduce hazard by altering procedures and providing instructions.
Rarely	1	Rare	0.05	Insignificant	1		<b>Personal protective equipment</b> last resort or temporary control.

### LEGEND

E: extreme/significant risk; immediate action required; must be managed by senior management with a detailed plan, notify RMO immediately.

H: high risk, senior management attention needed, detailed research and management planning at senior levels

M: moderate risk, management responsibility must be specified; manage by specific monitoring or response procedures

L: low risk, manage by routine procedures; unlikely to need specific allocation of resources

## Details of Risk Controls to be Taken

Risk Controls: (These should be determined by both the person(s) identifying the risk and the responsible manager and HSR or Environmental Representative). When determining risk controls refer to Hierarchy of Risk Control. Some examples are operating manuals, safe work procedures, licenses, permits to work, training and instruction etc

**Supervision:** Direct supervision not required but each activity approved in the first instance.

**Use:** As usual for use of toxic chemicals, a safer alternative should be sought first. If this is not possible, the amount used should be minimised. Users of toxic substances must be fully aware of the hazards associated with using the substance before it is used. Hazardous substances may be weighed only within an adequate fume hood. Where fume hood space is an issue and the balance is kept on a bench, other ventilation options should be sought, such as local area venting arms. As balances are precision instruments, it is not practical to regularly move balances between the bench and fume hood, nor is it feasible to operate them routinely in well-ventilated areas where air drafts affect precision and accuracy. Keeping a balance on an unventilated bench area increases potential for worker exposure, particularly if shortcuts are taken, therefore it is preferable to remove the human element (Elimination of risk). Unventilated balances should only be used on a bench for chemicals of low/negligible toxicity. A separate assessment would be required to



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## RISK ASSESSMENT 3D Model

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be completed by the end user in this instance if weighing toxic chemicals, taking into account amount used and toxicity of the chemical.

**PPE:** Lab coat, appropriate gloves and safety glasses must be worn.

Person assessing the risk: \_\_\_G. Papadopoulos/S. Williams \_\_\_\_\_ Date: \_\_\_\_\_10/11/06\_\_\_\_\_

Authorised by: \_\_\_\_\_G. Papadopoulos \_\_\_\_\_ Planned completion date: \_\_\_\_\_

### Risk Control Measures Completed

Actions by: \_\_\_\_\_ Completed (Initials & date): \_\_\_\_\_