



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 Formaldehyde

Location: Chemistry labs

Identified by: G. Papadopoulos

Date: 17/2/06

Identified Hazard / Aspect: Regulated carcinogen (overseas), sensitiser, irritant

## 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 Formaldehyde: toxic by skin contact/inhalation, regulated carcinogen (overseas), sensitiser, irritant.	1	0.3	10	3	M

Definitions						
Exposure	E	Likelihood	L	Consequence	C	Risk Score
Continuously	10	Almost Certain	1.0	Catastrophic	20	<b>E</b> >20 <b>H</b> >10 <b>M</b> 3-10
Frequently	6	Likely	0.6	Major	10	
Occasionally	3	Possible	0.3	Moderate	5	
Infrequently	2	Unlikely	0.1	Minor	2	<b>L</b> < 3
Rarely	1	Rare	0.05	Insignificant	1	

**Hierarchy of Risk Controls**  
**Elimination** is a permanent solution and should be attempted in the first instance.  
**Substitution** involves replacing the hazard or environmental aspect by one of lower risk.  
**Engineering** controls involve physical barriers or structural changes to the environment or process.  
**Administrative** controls reduce hazard by altering procedures and providing instructions.  
**Personal protective equipment** 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 by post-grads, but each activity should be authorized/approved. Do not begin working with Formaldehyde without the Supervisor's advice and specific approval.

**Storage:** Store in a warm place (above 20°C) to prevent freezing. Keep well closed and protected from direct sunlight and moisture. Avoid polymerization initiators (e.g. alkali metals), acids, nitrogen oxides, hydrogen peroxide, performic acid, acid halides, alkaline earth metals, oxidizing agents, hydrides, zinc diethyl, halogens.

**Use:** Prior to beginning work with formaldehyde, a full risk assessment, detailed procedure and documentation is required. Work with formaldehyde in a fume hood only. Use only in an area equipped with a safety shower and eyewash. Because of its possible carcinogenicity and combustibility, it should be handled with the same precautions as a highly toxic or extremely flammable substance. Pungent odour is detectable at 1ppm but the perception of formaldehyde by odour and eye irritation becomes less sensitive with time. This can lead to overexposure if the worker is relying on formaldehyde's warning properties to alert them. Exposure above 10ppm causes severe lacrimation.



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## RISK ASSESSMENT 3D Model

EHS Manual

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**PPE:** Lab coat, eye protection (should be selected on potential for splash and exposure, eg Face shield), nitrile or neoprene gloves and closed shoes to be worn at all times.

Person assessing the risk: \_\_\_ G. Papadopoulos

Date: 17/2/06

Authorised by: \_\_\_\_\_ G. Papadopoulos \_\_\_\_\_

Planned completion date: 17/2/06

### Risk Control Measures Completed

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