



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: Thin Layer Chromatography Location: Chemistry

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

Identified Hazard / Aspect: Exposure to solvents and chemicals of unknown toxicity

Risk Analysis matrix – level of risk

Identified Hazards	Risk Assessment			Risk Score E x L x C	Risk Level
	Exposure (E)	Likelihood (L)	Consequence (C)		
Exposure to research compound (unknown toxicity)	6	0.3	5	9	M
Exposure to vapours of heated solvents	6	0.3	5	9	M
Use of UV lamp	6	0.6	5	18	H

Definitions						
Exposure	E	Likelihood	L	Consequence	C	Risk Score
Continuously	10	Almost Certain	1.0	Catastrophic	20	E >20 H >10 M 3-10
Frequently	6	Likely	0.6	Major	10	
Occasionally	3	Possible	0.3	Moderate	5	
Infrequently	2	Unlikely	0.1	Minor	2	L < 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: New users must be trained by senior member of the laboratory who is sufficiently competent to give instruction on the correct procedure. Newly trained users should be supervised for the first few attempts by a competent person.

Use: When visualizing the TLC plate using UV, a UV lamp housed in a viewing box is to be used. Do not use a hand held UV lamp. Visualizing with specific reagents and/or by heating (ie using a heat gun), should only be done on the bench if the reagents have low flammability and toxicity, such as ethanol, anisaldehyde or ninhydrin, and stock solutions should be kept covered during heating. All flammable solvents should be kept away from the heat gun. A fume cupboard must be used when using low boiling point dangerous goods and toxic chemicals, eg molybdophosphoric acid. Where there is limited fume hood space, local fume exhaust systems such as a venting arm or TLC Spray Cabinet should be used to extract the emitted fumes.



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RISK ASSESSMENT 3D Model

EHS Manual

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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): _____