



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 PVC 'safety shields' as explosion protection Location: ___Chemistry_____

Identified by: _G. Papadopoulos_____ Date: ___20/6/07_____

Identified Hazard / Aspect: _PVC shattering/melting during explosion, providing false sense of protection

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	
PVC shattering/melting	2	0.1	10	2	L
Turbulence created behind the screen when used in a fume hood	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	E >20 H >10 M 3-10	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.
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		

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

The main use of safety screens is to protect against sudden implosions/explosions in the laboratory that will result in glass fragments and chemicals spraying debris around in a lab. Although PVC is only one material that could be used for these screens, the more expensive Lexan can be used to protect against certain chemicals. In our case, perspex or PVC screens are used in a general way as a back up to other risk control measures. It is not a frontline risk control measure but rather for controlling low level risk in instances where fume hood sashes need to be raised to provide people with access to chemicals/instruments within the fume hood and there is a slight chance of an implosion/explosion. Risk assessments with a score of H or E should be reassessed to bring the risk level down to L or M using a control measure other than a safety screen.

Screens should not be fixed to benches/fume hood bases, but be portable and on a heavy base. This way in the event of an explosion the screen will take the majority of the impact and get knocked over, rather than shatter as it would if it was in a rigid position.



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RISK ASSESSMENT 3D Model

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The use of the screen may result in turbulence directly behind the screen. If the area behind the work area is not kept clear there is a high potential for a "dead spot" to be created which will increase the potential for fume escape. Keep the fume hood as clutter-free as possible. Remove any unused objects.

Person assessing the risk: G. Papadopoulos Date: 20/6/07

Authorised by: _____ Planned completion date: _____

Risk Control Measures Completed

Actions by: G. Papadopoulos Completed (Initials & date): 20/6/07