



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: Laser work in the laboratory Location: Chemistry

Identified by: G. Papadopoulos Date: 31/1/06

Identified Hazard / Aspect: Eye damage and skin burns

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	
Eye damage	6	0.3	5	9	M
Skin burns	6	0.3	5	9	M

Definitions						
Exposure	E	Likelihood	L	Consequence	C	Risk Score
Continuously	10	Almost Certain	1.0	Catastrophic	20	E >20
Frequently	6	Likely	0.6	Major	10	H >10
Occasionally	3	Possible	0.3	Moderate	5	M 3-10
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 undergo laser safety training by their supervisor. Direct supervision not required but each activity must be approved in the first instance.
- Use the lowest laser output possible. Reduce laser output with shutters/attenuators, if possible.
- Totally enclose the laser system or use shields to constrain the laser beams. Shields must be rechecked after even minor adjustments or realignments of optical systems. Terminate laser beam with a beam trap.
- Wear safety glasses appropriate for laser wavelength.
- Clearly designate and restrict access to the laser area (particularly anywhere in the line of sight) to laser trained personnel. Keep beam path away from eye level (sitting or standing). Remove all reflective surfaces from laser area (including wristwatch faces and similar objects). Let other lab members know what you are doing. Read the laser section of the Safety Manual. When in doubt, consult with the departmental Laser Safety Officer, Dr Evan Bieske.



THE UNIVERSITY OF
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RISK ASSESSMENT 3D Model

EHS Manual

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- Laser users should consult AS2211-Safety of Laser Products for more details on requirements.

Person assessing the risk: G. Papadopoulos Date: 31/1/06

Authorised by: G. Papadopoulos Planned completion date:

Risk Control Measures Completed

Actions by: G. Papadopoulos Completed (Initials & date): 31/1/06