



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 electrically operated equipment Location: Chemistry

Identified by: G. Papadopoulos Date: 20/6/07

Identified Hazard / Aspect: Electrocution, burns and shocks from contact with live wiring- Power boards/extension leads, Power outlets, any electrical appliance.

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	
Electrocution due to exposed wiring/loss of insulation layer	6	0.1	10	6	M
Loss of earth, appliance becoming 'live'	6	0.1	10	6	M
Explosion and fire caused by electrical sparks, short circuits etc in the presence of flammable material.	6	0.05	10	3	M

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

Use: No apparatus with exposed mains terminals should ever be used. Ordinary electrical equipment must not be used in the vicinity of flammable or explosive gases as it is a possible source of ignition. Ordinary electrical equipment must not be used where it may get wet. Water may cause a dangerous short circuit. Equipment that has been wet must never be switched on until the equipment has been tested. Anyone to whom the equipment is taken for testing must be informed about what has happened.



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Repairs: Electrical equipment must not be "repaired" except by a competent person. Equipment must be disconnected from the main power before beginning. If there is any doubt, equipment should be taken to the Electronics Workshop for repair.

Testing: Portable appliances must be tested to ensure their continued safe use. Most portable items of equipment in the School of Chemistry are annually tested by a contractor or Workshop staff and carry a 'test tag' with a 'most recent' testing date. Apparatus with a FAILED sticker must never be used. Any items greater than a year old without a test tag should be sent to the Electronics Workshop or Metals Workshop for testing. A visual inspection should be carried out as part of the quarterly workplace inspections to check the integrity of the outer coating of insulation on cables.

Extensions /Adaptors: It is permissible if necessary to feed a power board from a single socket provided the board feeds only low power equipment (less than 500 W or 2 A). Extension leads must not be daisy-chained. Kettles, microwaves and heaters that have higher power demands must not be used on such an extension but must be fed from an installed socket point. Double adaptors are forbidden by the University.

Cabling: Cables must not be run across the floor in such a way as to cause a tripping hazard or to be susceptible to damage from passing traffic. If it is necessary to run cables across walkways, they must be covered with cable protectors. Care must be taken to protect cables from other hazards such as heat from hot appliances like hotplates, which can melt the insulation, causing the appliance to become live if the wiring touches the metal parts.

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

Authorised by: G. Papadopoulos Planned completion date: 20/6/07

Risk Control Measures Completed

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