

Risk Assessment Record

Department	Centre for Biological Engineering		
Item Description	Gonotec Osmomat 030 Cryoscopic Osm	nometer	,
Location	CBE Labs H30		
Date	02/04/2012		
Highest Risk Rating	Medium R	Risk	
Review Date	16/05/2013		
Assessor	Andrew Picken		
Comments	Instructions for use of this instrument can be	found in So	OP140
Signature		Date	18/05/2012
Supervisor	Karen Coopman		
Comments		***	\$.
	e .		,
Signature	corpnas.	Date	11/06/2012.
Safety Officer	R.I.Temple	ant hair wat na bha fall an ann agus an t-air mhair ann an t-air an t-air an t-air an t-air an t-air an t-air a	
Comments	:		
Signature	Money	Date	16/05/2012

Personnel at Risk

The Health & Safety at Work Act requires that you ensure, so far as is reasonably practicable, the health and safety of yourself and others who may be affected by what you do or fail to do. Indicate using the groups listed below the individuals (restricted high-risk users) and numbers of people (e.g. with restricted user privileges or unrestricted access) who may be at risk from the hazards. Classify the *maximum* level of activity/exposure to the equipment to be permitted for each group/individual using the categories indicated below.

Activity/Exposure Categories

- 1. Reconfiguration (high exposure)
- 2. Maintenance
- 3. Normal use
- 4. Unsupervised observation

- 5. Supervised reconfiguration
- 6. Supervised normal use
- 7. Supervised observation
- 8. Prohibited (no exposure)

Personnel Groups

Group	Individuals/Numbers	Activity/Exposure
Academic Staff	•	Reconfiguration
9		
Technical Staff		Reconfiguration
Research Staff	All research staff who have been trained.	Reconfiguration
	•	
Project Students	All project students who have been trained.	Supervised reconfiguration
110joot ottaonis	The project students who have even distinct	- up - 1 - 1 - 1 - 1 - 2 - 1 - 1 - 1 - 1 - 1
		*
		*
		Y
Others		Supervised normal use
	y y	

Hazard Checklist	0 00 00				
Indicate below whether or not a hazard i	s preser	nt for ea	ach type listed.		
Category 1: Machinery & Wo	rk Eq	uipm	ent: Mechanical Hazards		
Туре	Yes	No	Туре	Yes	No
Crushing		\boxtimes	Impact		\boxtimes
Shearing	\square .	\boxtimes	Stabbing/puncture		\boxtimes
Cutting/severing	\Box .	\boxtimes	Friction/abrasion		\boxtimes
Entanglement					
Drawing-in/Trapping			Other mechanical hazard(s)		
Category 1: Machinery & Wo	rk Eq	uipm	ent: Electrical Hazards		
Туре	Yes	No	Туре	Yes	No
Direct contact		\boxtimes	Source of ignition		\boxtimes
Indirect contact		\boxtimes	Electrical test labels current	\boxtimes	
Electrostatic phenomena		\boxtimes			
Short circuit/overload		\boxtimes	Other electrical hazard(s)		
Category 2: Workplace					
Туре	Yes	No	Туре	Yes	No
Slips/trips/falls on a level		\boxtimes	Localised cold surfaces		
Falls from a height		\boxtimes	Storage and stacking		\boxtimes
Falling/moving objects/materials		\boxtimes	Confined work area (knocks)		\boxtimes
Striking objects		\boxtimes	Confined space/lack of oxygen		\boxtimes
Localised hot surfaces		\boxtimes	Other workplace hazard(s)		
Category 3: Hazardous Subs	stanc	es			
Туре	Yes	No	Туре	Yes	No
Toxic fluids,		\boxtimes	Corrosive substances		\boxtimes
Toxic gas/mist/fumes/dust		\boxtimes	Irritants/sensitising substances	\boxtimes	
Flammable liquids	\boxtimes		Oxidising substances		\boxtimes
Flammable gas/mist/fumes/dust		\boxtimes	Explosive substances		\boxtimes
High pressure gas/fluid		\boxtimes	Biological substances (infection)		\boxtimes
High pressure fluid injection		\boxtimes	Other substance hazard(s)	\boxtimes	
Category 4: Work Activity					
Туре	Yes	No	Туре	Yes	No
Highly repetitive actions		\boxtimes	Visual fatigue (e.g. >3 hours VDU)		\boxtimes
Stressful posture		\boxtimes	Poor workplace design		\boxtimes
Awkward/heavy lifting/handling		\boxtimes	Use of hand tools		\boxtimes
Mental overload/stress		\boxtimes	Other work activity hazard(s)		\boxtimes

Risk Assessment Record Category 5: Work Organisation

Assessment No. [SAF/CBE/ 71

Туре	Yes	No	Туре	Yes	No
Contractors/service		\boxtimes	Other work organisation hazard(s)		\boxtimes
Category 6: Work Environme	ent				
Туре	Yes	No	Туре	Yes	No
Significant noise		\boxtimes	Hot/cold ambient temperature		\boxtimes
Significant vibration		\boxtimes	Poor ventilation		\boxtimes
Poor/excessive lighting	П	\boxtimes	Other work environment hazard(s)		\boxtimes
Category 7: Other Hazard Ty	pes				
Туре	Yes	No	Туре	Yes	No
Violence		\boxtimes	Substance abuse		\boxtimes
Stress		\boxtimes			
Drugs	Ħ	\boxtimes	Other hazard(s)		\boxtimes
Category 8: Outdoor Work					
Туре	Yes	No	Туре	Yes	No
Outdoors on campus		\boxtimes	Site visit: construction		\boxtimes
Outdoors off campus		\boxtimes	Site visit: non-construction		\boxtimes
Overseas fieldwork			Other hazard(s)		\boxtimes
Other Hazards: Radiation					
Type	Yes	No	Туре	Yes	No
Radiation: Lasers		\boxtimes	Radiation: Ionising/non-ionising		\boxtimes
		\boxtimes	Other radiation hazard(s)	3	X

Hazard Assessment

Describe the hazards identified above on the following pages. For each hazard assess the risk to health and safety using the risk rating formula and categories indicated below.

Risk Calculation

Severity	X	Probability	FORMA .	Risk
Major = 3 (e.g. death, major injury as per RIDDOR, irreversible health damage)		High = 3 (where certain or near certain harm will occur)		High = 6,9
Serious = 2 (e.g. injuries causing >3 days absence or reversible health damage)		Medium = 2 (where harm will frequently occur)		Medium = 2,3,4
Minor = 1 (e.g. first ad treatments and other lost time)		Low = 1 (where harm will seldom occur)		Low = 1

Risk Assessment Record

Hazard Risk Rating	Rating							
Activity	Groups at risk	Hazard Description	Controls in place	Severity	Severity Probability	Risk	Action needed? Yes No	oo No
Normal use	All	The tip of the thermistor achieves very low temperatures	Operation is limited to instances where the themistor is completely enclosed.	Serious	Low	Medium		\boxtimes
						Add Row Delete Row	Delet	e Row

Gonotec Osmomat 030 Cryoscopic Osmometer CBE Labs H30 Andrew Picken 02/04/2012

Risk Reduction

Physical

Determine whether the risk to health and safety can be reduced by modifications to the equipment or workspace, especially for those hazards identified as having medium to high risk. List planned action and completion dates below.

Hazard	Action to be taken	Responsible Personnel	Completion Date
			X 8
		Add R	Low Delete Row

Procedural

Determine and indicate below whether acceptable levels of risk to health and safety can only be achieved when equipment use must follow prescribed procedures, and/or where use must be restricted to specified personnel. Prepare and attach user guides, user restriction and other HSE documents as appropriate. Contact the Department Safety Officer for guidance/assistance as necessary.

Iten	1	Yes	No
Doe	es the equipment/process need an operating procedure document?	\boxtimes	
•	If yes, has one been prepared and appended to this form?	\boxtimes	
	st protective equipment be worn to use the equipment/process safely? (cf. Personal tective Equipment (PPE) regulations)	\boxtimes	П
0	If yes, have the users been adequately notified?	\boxtimes	
•	If yes, is suitable protective equipment available for all potential users/observers?	\boxtimes	
Sho	uld the use of this equipment be restricted to certain qualified personnel?		\boxtimes
•	If yes, has a list of permitted users been prepared, appended to this form and displayed near the equipment?		
Is tr	aining required to use the equipment/process safely?		\boxtimes
•	If yes, have all identified users been adequately trained?		\boxtimes
Doe	es the equipment have a CE mark?	\boxtimes	
•	If not, does the equipment need a separate Machinery Risk Assessment?		\boxtimes
•	If yes, has one been prepared and appended to this form?		\boxtimes
Ifa	lifting hazard has been identified is a manual handling assessment required?		\boxtimes
•	If yes, has one been prepared and appended to this form?		\boxtimes
If h	azardous substances will be in use, is a COSHH form required?	\boxtimes	
•	If yes, has one been prepared and appended to this form?	\boxtimes	
Doe	s the equipment involve the use of lasers?		\boxtimes
•	If yes, has a laser description form been completed and appended to this form?		\boxtimes



Risk Assessment Record

Department	Centre for Biological Engineering		
Item Description	Grant QBA-2 Block Heater		
Location	CBE H30		
Date	19/03/12		
Highest Risk Rating	Medium R	Risk	
Review Date	16/05/2013		
Assessor	Andrew Picken		
Comments	The Block Heater will be used to heat low verequired for assays (e.g. enzymatic treatment.) The system has a temperature range from 25 at a default temperature of 37°C.	ts).	
Signature		Date	
Supervisor	Karen Coopman		
Comments			
Signature		Date	
Safety Officer	R.I.Temple		
Comments			
Signature	216 mis	Date	16/05/2012

Personnel at Risk

The Health & Safety at Work Act requires that you ensure, so far as is reasonably practicable, the health and safety of yourself and others who may be affected by what you do or fail to do. Indicate using the groups listed below the individuals (restricted high-risk users) and numbers of people (e.g. with restricted user privileges or unrestricted access) who may be at risk from the hazards. Classify the *maximum* level of activity/exposure to the equipment to be permitted for each group/individual using the categories indicated below.

Activity/Exposure Categories

- 1. Reconfiguration (high exposure)
- 2. Maintenance
- 3. Normal use
- 4. Unsupervised observation

- 5. Supervised reconfiguration
- 6. Supervised normal use
- 7. Supervised observation
- 8. Prohibited (no exposure)

Personnel Groups

Group	Individuals/Numbers	Activity/Exposure
Academic Staff		Reconfiguration
	*	
Technical Staff	,	Reconfiguration
		reconfiguration
187		
		~
11		
Research Staff	All research staff who have been trained.	Reconfiguration
		6
Project Students	All project students who have been trained.	Normal use
Others		Supervised normal use

Hazard Checklist Indicate below whether or not a hazard is present for each type listed. Category 1: Machinery & Work Equipment: Mechanical Hazards Type Yes No Type Yes No X X Crushing Impact..... П \boxtimes Stabbing/puncture..... Shearing \boxtimes Cutting/severing \boxtimes П Friction/abrasion..... \boxtimes X Entanglement..... \boxtimes Drawing-in/Trapping..... Other mechanical hazard(s)..... \boxtimes Category 1: Machinery & Work Equipment: Electrical Hazards Type Yes No Type Yes No X Direct contact Source of ignition П X \boxtimes Indirect contact..... Electrical test labels current..... \boxtimes П Electrostatic phenomena \boxtimes Short circuit/overload..... X Other electrical hazard(s)..... \boxtimes Category 2: Workplace Type Yes No Type Yes No Slips/trips/falls on a level П \boxtimes Localised cold surfaces..... X Falls from a height П X Storage and stacking..... X Falling/moving objects/materials \boxtimes Confined work area (knocks)..... \boxtimes Striking objects..... \boxtimes Confined space/lack of oxygen...... X Localised hot surfaces X П Other workplace hazard(s)..... \boxtimes Category 3: Hazardous Substances Type Yes No Type Yes No Toxic fluids X Corrosive substances \boxtimes Toxic gas/mist/fumes/dust..... X П Irritants/sensitising substances...... \boxtimes Flammable liquids..... \boxtimes Oxidising substances \boxtimes Flammable gas/mist/fumes/dust...... П \boxtimes Explosive substances X High pressure gas/fluid..... X П Biological substances (infection)...... Ø High pressure fluid injection..... \boxtimes Other substance hazard(s)..... X Category 4: Work Activity Type Yes No Type Yes No \boxtimes Highly repetitive actions Visual fatigue (e.g. >3 hours VDU)... \boxtimes Stressful posture..... \boxtimes Poor workplace design..... П X Awkward/heavy lifting/handling...... X Use of hand tools..... \boxtimes Mental overload/stress..... \boxtimes Other work activity hazard(s)..... \boxtimes

Risk Assessment Record Category 5: Work Organisation

Assessment No. [SAF/CBE/...70]

Туре	Yes	No	Туре	Yes	N
Contractors/service		\boxtimes	Other work organisation hazard(s)		Σ
Category 6: Work Environme	ent				
Туре	Yes	No	Туре	Yes	N
Significant noise		\boxtimes	Hot/cold ambient temperature	\boxtimes	
Significant vibration		\boxtimes	Poor ventilation		
Poor/excessive lighting		\boxtimes	Other work environment hazard(s)		\triangleright
Category 7: Other Hazard Ty	pes				
Туре	Yes	No	Туре	Yes	N
Violence			Substance abuse		D
Stress		\boxtimes			
Drugs		\boxtimes	Other hazard(s)		\triangleright
Category 8: Outdoor Work					
Туре	Yes	No	Туре	Yes	N
Outdoors on campus		\boxtimes	Site visit: construction		\boxtimes
Outdoors off campus		\boxtimes	Site visit: non-construction		\geq
Overseas fieldwork		\boxtimes	Other hazard(s)		\triangleright
Other Hazards: Radiation				per	
Туре	Yes	No	Туре	Yes	N
Radiation: Lasers		\boxtimes	Radiation: Ionising/non-ionising		\boxtimes
Radiation: Electromagnetic effects	П	\boxtimes	Other radiation hazard(s)	П	\triangleright

Hazard Assessment

Describe the hazards identified above on the following pages. For each hazard assess the risk to health and safety using the risk rating formula and categories indicated below.

Risk Calculation

Severity	X	Probability	=	Risk
Major = 3 (e.g. death, major injury as per RIDDOR, irreversible health damage)		High = 3 (where certain or near certain harm will occur)		High = 6,9
Serious = 2 (e.g. injuries causing >3 days absence or reversible health damage)		Medium = 2 (where harm will frequently occur)		Medium = 2,3,4
Minor = 1 (e.g. first ad treatments and other lost time)		Low = 1 (where harm will seldom occur)	ş •	Low = 1

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Activity	Groups at risk	Hazard Description	Controls in place	Severity	Probability	Risk	Action needed? Yes No	seded? No
					- No.			
			1 1 2		N. C. J.	N.C. J.		D
Normal use	All Lab Users	Localised not surfaces	used to indicate the current	Serions	IMEGINI	Medium]	3
		degrees celcius and could cause burn injuries. The	block temperature.					
-		Block Heater is unguarded and no barrier exists	2. Blocks must be removed					3
		between the blocks and operators.	using the tool provided and					
		The Block Heater will remain hot for a considerable	NOT by hand.					8
		amount of time after it is switched off.	3. Forceps will be used to			**		
		Liquids heafed to extreme temperature may present a	transfer tubes to and from					
		risk of scalding to operators.	the blocks to minimise risk of burn injury.		4 2 2 30 2 31 2 32 3			
			4 Volumes used in each					
			1.5 ml eppendorf tube					
			must not exceed 1 ml, to					
			minimise risk of scalding.					
Normal use	All Lab Users	Hazardous substances	1. All relevant COSHH	Serions	Medium	Medium		\boxtimes
			risk asssessments will be					
		Chemicals may not be stable if heated and could	reviewed for flash points					
		produce hazardous vapours.	and other hazardous					
			characteristics prior to use					
		Eye or skin damage caused by splashed liquid.	with the Block Heater.					
	the second second	Fire caused by heating materials to a temperature in	2. 1 ml maximum sample	100				
		excess of their flashpoints.	volume per 1.5 ml	10 m				
	3.		eppendorf tube.		and Taxon			
		Vapour release if the heating of liquids is likely to						
	-	release hazardous vapours.	3. Users will ensure					
	- Market Market		eppendorf tube lids are					
			secure BEFORE placing		•			
			tubes into the blocks.		2			
ranovamenta con			4. Thermometer and			77- 11		
7 .	÷.							

Hazard Risk Rating	Rating							
Activity	Groups at risk	Groups at risk Hazard Description	Controls in place	Severity	Severity Probability	Risk	Action needed? Yes No	
			warning sticker indicate current use of Block Heater to other lab users.				100	
			5. Safety goggles, gloves and lab coat will be worn at all times.		20.00			
					7	Add Row	Delete Row	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

Grant QBA-2 Block Heater CBE H30 Andrew Picken 19/03/12

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Physical

Determine whether the risk to health and safety can be reduced by modifications to the equipment or workspace, especially for those hazards identified as having medium to high risk. List planned action and completion dates below.

Hazard	Action to be taken	Responsible Personnel	Completion Date
· · · · · · · · · · · · · · · · · · ·		Add	Row Delete Row

Procedural

Determine and indicate below whether acceptable levels of risk to health and safety can only be achieved when equipment use must follow prescribed procedures, and/or where use must be restricted to specified personnel. Prepare and attach user guides, user restriction and other HSE documents as appropriate. Contact the Department Safety Officer for guidance/assistance as necessary.

ltem	Yes	No
Does the equipment/process need an operating procedure document?	\boxtimes	
• If yes, has one been prepared and appended to this form?	\boxtimes	
Must protective equipment be worn to use the equipment/process safely? (cf. Personal Protective Equipment (PPE) regulations)	\boxtimes	П
• If yes, have the users been adequately notified?	\boxtimes	
• If yes, is suitable protective equipment available for all potential users/observers?	\boxtimes	П
Should the use of this equipment be restricted to certain qualified personnel?		\boxtimes
• If yes, has a list of permitted users been prepared, appended to this form and displayed near the equipment?		
Is training required to use the equipment/process safely?		\boxtimes
 If yes, have all identified users been adequately trained? 		\boxtimes
Does the equipment have a CE mark?		
• If not, does the equipment need a separate Machinery Risk Assessment?		\boxtimes
• If yes, has one been prepared and appended to this form?		\boxtimes
If a lifting hazard has been identified is a manual handling assessment required?		\boxtimes
• If yes, has one been prepared and appended to this form?		
If hazardous substances will be in use, is a COSHH form required?		
If yes, has one been prepared and appended to this form?		
Does the equipment involve the use of lasers?		\boxtimes
• If yes, has a laser description form been completed and appended to this form?		