Loughborough University

Assessment No. [SAF/CBE/45...__]

Risk Assessment Record

Department	Centre for Biological Engineering

Item Description	ViCell Automated Cell Counter
Location	CBE H21
Date	18/10/2010

Highest Risk Rating	**Medium Risk**
Review Date	

Assessor	Elizabeth Ratcliffe		
Comments	The ViCell automated cell counter is a bench-top automated cell counter that performs cell count and viability measurements using trypan blue stain.		
Signature		**Date**	

Supervisor	Professor David Williams		
Comments			
Signature		**Date**	27/10/10

Safety Officer	R.I.Temple		
Comments			
Signature		**Date**	27/10/10

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		Normal use
Technical Staff		Normal use
Research Staff	Elizabeth Ratcliffe	Normal use
Project Students		Normal use
Others	None	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
Crushing	☐	☒
Shearing	☐	☒
Cutting/severing	☐	☒
Entanglement	☐	☒
Drawing-in/Trapping	☐	☒

Type	Yes	No
Impact	☐	☒
Stabbing/puncture	☐	☒
Friction/abrasion	☐	☒
Other mechanical hazard(s)	☐	☒

Category 1: Machinery & Work Equipment: Electrical Hazards

Type	Yes	No
Direct contact	☐	☒
Indirect contact	☐	☒
Electrostatic phenomena	☐	☒
Short circuit/overload	☐	☒

Type	Yes	No
Source of ignition	☐	☒
Electrical test labels current	☒	☐
Other electrical hazard(s)	☐	☒

Category 2: Workplace

Type	Yes	No
Slips/trips/falls on a level	☐	☒
Falls from a height	☐	☒
Falling/moving objects/materials	☐	☒
Striking objects	☐	☒
Localised hot surfaces	☐	☒

Type	Yes	No
Localised cold surfaces	☐	☒
Storage and stacking	☐	☒
Confined work area (knocks)	☐	☒
Confined space/lack of oxygen	☐	☒
Other workplace hazard(s)	☐	☒

Category 3: Hazardous Substances

Type	Yes	No
Toxic fluids	☒	☐
Toxic gas/mist/fumes/dust	☐	☒
Flammable liquids	☐	☒
Flammable gas/mist/fumes/dust	☐	☒
High pressure gas/fluid	☐	☒
High pressure fluid injection	☐	☒

Type	Yes	No
Corrosive substances	☐	☒
Irritants/sensitising substances	☐	☒
Oxidising substances	☐	☒
Explosive substances	☐	☒
Biological substances (infection)	☒	☐
Other substance hazard(s)	☐	☒

Category 4: Work Activity

Type	Yes	No
Highly repetitive actions	☐	☒
Stressful posture	☐	☒
Awkward/heavy lifting/handling	☐	☒
Mental overload/stress	☐	☒

Type	Yes	No
Visual fatigue (e.g. >3 hours VDU)	☐	☒
Poor workplace design	☐	☒
Use of hand tools	☐	☒
Other work activity hazard(s)	☐	☒

Category 5: Work Organisation

Type	Yes	No
Contractors/service	☐	☒

Type	Yes	No
Other work organisation hazard(s)	☐	☒

Category 6: Work Environment

Type	Yes	No
Significant noise	☐	☒
Significant vibration	☐	☒
Poor/excessive lighting	☐	☒

Type	Yes	No
Hot/cold ambient temperature	☐	☒
Poor ventilation	☐	☒
Other work environment hazard(s)	☐	☒

Category 7: Other Hazard Types

Type	Yes	No
Violence	☐	☒
Stress	☐	☒
Drugs	☐	☒

Type	Yes	No
Substance abuse	☐	☒
Other hazard(s)	☐	☒

Category 8: Outdoor Work

Type	Yes	No
Outdoors on campus	☐	☒
Outdoors off campus	☐	☒
Overseas fieldwork	☐	☒

Type	Yes	No
Site visit: construction	☐	☒
Site visit: non-construction	☐	☒
Other hazard(s)	☐	☒

Other Hazards: Radiation

Type	Yes	No
Radiation: Lasers	☐	☒
Radiation: Electromagnetic effects	☐	☒

Type	Yes	No
Radiation: Ionising/non-ionising	☐	☒
Other radiation hazard(s)	☐	☒

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	×	**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)		Low = 1

Hazard Risk Rating

Activity	Groups at risk	Hazard Description	Controls in place	Severity	Probability	Risk	Action needed? Yes	No
Normal use	All Operators	The ViCell uses approximately 500µL Trypan Blue (0.4%) per sample and samples are prepared automatically within the ViCell. Trypan blue is a possible Cancer Hazard. The risk of cancer depends on exposure type, level and duration. Trypan Blue may be harmful if swallowed or inhaled, or cause irritation if exposed to eyes, skin, or respiratory tract.	All users will read and follow all warnings, precautions, instructions and other safety and handling information on the label. Refer to COSHH assessment and SOP029 Safe Handling and Disposal of Trypan Blue prior to working with Trypan Blue and the ViCell system. This will be documented in Personal Training Files.	Minor	Low	Medium	☐	☒
		The ViCell is used to count cells in biological samples	Manipulations involving cells will be conducted in accordance with the relevant biological risk assessment.					

Add Row | Delete Row

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

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.

Item	Yes	No
Does the equipment/process need an operating procedure document?	☐	☒
• If yes, has one been prepared and appended to this form?	☐	☒
Must protective equipment be worn to use the equipment/process safely? (cf. Personal Protective Equipment (PPE) regulations)	☒	☐
• If yes, have the users been adequately notified?	☒	☐
• If yes, is suitable protective equipment available for all potential users/observers?	☒	☐
Should the use of this equipment be restricted to certain qualified personnel?	☒	☐
• 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?	☒	☐
• If yes, have all identified users been adequately trained?	☒	☐
Does the equipment have a CE mark?	☒	☐
• If not, does the equipment need a separate Machinery Risk Assessment?	☐	☐
• If yes, has one been prepared and appended to this form?	☐	☒
If a lifting hazard has been identified is a manual handling assessment required?	☐	☒
• 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?	☐	☒
• If yes, has a laser description form been completed and appended to this form?	☐	☒