

RISK ASSESSMENT DETAILS

RISK ASSESSMENT TITLE

Electrophoresis

RISK ASSESSMENT COMPLETED BY:

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SUBJECT MATTER EXPERT:

Alan McLennan

RA NUMBER:

PROC106

VERSION:

2

VERSION DATE:

16/02/2011

REVIEW DATE:

16/02/2016

IMPORTANT NOTES

This risk assessment assesses the risk involved in the process of gel agarose & acrylamide electrophoresis. This risk assessment incorporates pieces of equipment that are used in the electrophoresis process. This includes:

Blotting Modules/Units e.g. Transblot

Electrophoresis Apparatus

Criterion Cell

Electrophoresis/Gel Tanks

Power Supply Units

PERSONS AT RISK

Users performing electrophoresis

REFERENCED DOCUMENTATION: (list any other sources of information that relates to this risk assessment, e.g. SOPs, other Risk Assessments etc)

SOP Electrophoresis – Gel Agarose

SOP Electrophoresis - Acrylamide

RA RMSS215 Acrylamide

RA Ethidium Bromide

RA 134MBS/SOP Transilluminator

OVERALL RISK RATING

Medium

HAZARD IDENTIFICATION & RISK ASSESSMENT (use the Risk Matrix below to assess the risk)

HAZARD 1:

Electricity

ASSOCIATED RISKS:

Electric shock from electrical components of the equipment.

MEASURES REQUIRED TO REDUCE RISK:

1. Equipment must be tested according to Australian Standards and have a current electrical test tag.
2. Equipment must be maintained as per manufacturer's instructions.
3. Danger/high voltage signs should be clearly visible on the power supply unit and all buffer tanks.
4. Equipment must be located where it will not be easily knocked over.

RESIDUAL RISK (When all control measures have been implemented)

CONSEQUENCE

Major

LIKELIHOOD

Rare

RISK RATING

Medium

HAZARD 2:

Chemical

ASSOCIATED RISKS:

Exposure to chemicals running through the apparatus, eye splash

MEASURES REQUIRED TO REDUCE RISK:

1. Interlock lids must be in place on the apparatus.
2. Users must be trained in the procedure by a competent person.
3. Inspect the lid for cracks or imperfections and leads for cracks in insulation.
4. Safe Operating Procedures must be followed at all times.
5. Personnel are to read MSDS for all substances being used prior to beginning the procedure.

6. Gloves, lab coat and safety glasses must be worn at all times.
7. Equipment must be located where it will not easily be knocked over.
8. Where possible use Gel Red or alternative.

RESIDUAL RISK (When all control measures have been implemented)	CONSEQUENCE	LIKELIHOOD	RISK RATING
		Major	Unlikely

HAZARD 3:

Ultra-Violet Radiation

ASSOCIATED RISKS:

Illness/burns due to UV exposure

MEASURES REQUIRED TO REDUCE RISK:

1. Read the Risk Assessment for using Transilluminators.
2. Safe Operating Procedures for the Transilluminator must be followed at all times.

RESIDUAL RISK (When all control measures have been implemented)	CONSEQUENCE	LIKELIHOOD	RISK RATING
		Major	Rare

ADDITIONAL CONTROLS AFTER REVIEW

RISK CONTROL:

DATE OF REVIEW: _____ **REVIEWED BY:** _____

RISK CONTROL:

DATE OF REVIEW: _____ **REVIEWED BY:** _____

RISK CONTROL:

DATE OF REVIEW: _____ **REVIEWED BY:** _____

HAZARD REGISTER

If the residual risk is high or very-high after controls have been implemented, the risk assessment must be signed off by the Head of School and transferred to the Hazard Register.

DATE ENTERED ON HAZARD REGISTER: _____ **HEAD OF SCHOOL SIGNATURE:** _____

RISK MATRIX

Consequence

		Negligible	Minor	Moderate	Major	Severe
Likelihood	Almost Certain	M	H	V	V	V
	Likely	M	M	H	V	V
	Slight	L	M	H	H	V
	Unlikely	L	L	M	M	H
	Rare	L	L	L	M	M

Almost Certain	There is an expectation that such an event will occur.	Severe	Injury resulting in death or permanent disability.
Likely	There is an expectation that such an event could occur but not certain to occur.	Major	Injury requires extensive medical treatment, hospitalisation.
Slight	The expectation of this event occurring is between "could" and "improbable".	Moderate	Injury requires formal medical treatment e.g. treatment as an outpatient in a medical facility.
Unlikely	The expectation of this event occurring is doubtful or improbable.	Minor	Injury requires first aid.
Rare	There is no expectation that this event will occur.	Negligible	Injury requires minor first aid or results in short term discomfort e.g. headache, bruise etc.