

RISK ASSESSMENT DETAILS

RISK ASSESSMENT TITLE

USING THE AUTOCLAVE TO STERILISE,
INCLUDING
PROCESSING QUARANTINE WASTE MATERIAL

RISK ASSESSMENT COMPLETED BY:	SUBJECT MATTER EXPERT:	RA NUMBER:
Alan McLennan – School Infrastructure Officer Peter Berry-Smith – Acting School Safety Officer	Alan McLennan – School Infrastructure Officer	
VERSION:	VERSION DATE:	REVIEW DATE:
V. 2	3 November 2011	3 November 2012

IMPORTANT NOTES

The quarantine waste cycle has distinct parameters that differ from a normal waste cycle.

PERSONS AT RISK

Autoclave operators, Maintenance contactors

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

Manual Handling techniques webpage: (<http://www.adelaide.edu.au/mbs/safety/handling/>)
 Safe Operating Procedure Broken Glass in Autoclave – Cleaning Process:
http://www.adelaide.edu.au/mbs/safety/register/SOP_Broken_Glass_in_Autoclave_30_03_11.pdf

OVERALL RISK RATING

MEDIUM

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

HAZARD 1:

Heat/steam

ASSOCIATED RISKS:

Heat and/or steam burns

MEASURES REQUIRED TO REDUCE RISK:

1. All users must be trained by an approved instructor before using the equipment (TNA: documents and records the training).
2. The SOP must be available on or near the Autoclave.
3. The pressure chamber must be at ambient pressure before opening the chamber.
4. Thermal gloves, face protection and lab coats must be worn when using the autoclave.

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

HAZARD 2:

Manual Handling

ASSOCIATED RISKS:

Musculoskeletal injuries from lifting equipment in and out of the autoclave.

MEASURES REQUIRED TO REDUCE RISK:

1. All users must be trained by an approved instructor before using the equipment (TNA: documents and records the training).
2. The SOP must be available on or near the Autoclave.
3. Safe Manual Handling techniques are used: (<http://www.adelaide.edu.au/mbs/safety/handling/>)

4. Trolley must be used to transport items.
5. Autoclaves should be stacked carefully and should not be overloaded.

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

HAZARD 3:

Electricity

ASSOCIATED RISKS:

Potential for electric shock from electrical components of the autoclave.

MEASURES REQUIRED TO REDUCE RISK:

1. Equipment should be serviced by the approved maintenance as per maintenance schedule and manufacturers recommendations.
2. Electrical Equipment Safety Testing is carried out in accord with electrical standards.
3. Any faults with the autoclave should be reported to the person in charge of the laboratory and the equipment tagged out where appropriate.

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

HAZARD 4:

Explosion of vessels containing super-heated liquids.

ASSOCIATED RISKS:

Eye/body injuries should explosion of vessels containing super-heated liquids occur.

MEASURES REQUIRED TO REDUCE RISK:

1. All users must be trained by an approved instructor before using the equipment (TNA: documents and records the training).
2. Autoclave must be left to complete its cool down phase of the sterilisation cycle to allow the liquids to cool to a non volatile temperature.
3. Face protection, lab coats and gloves must be worn when using the autoclave.

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

HAZARD 5:

Chemical/Biological

ASSOCIATED RISKS:

Contamination

MEASURES REQUIRED TO REDUCE RISK:

1. All materials to be autoclaved should be stored in separated areas for sterilisation and killing.
2. All materials for sterilisation should be labelled as to contents/time for killing and have autoclave tape attached to at least 1 item.
3. Monthly spore testing checks must be conducted on each of the three autoclaves.

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

HAZARD 6:

Broken Glass in Autoclave

ASSOCIATED RISKS:

Burns from heated autoclave and hot glass. See Hazard 1 above.
Cuts and lacerations from broken glass.

MEASURES REQUIRED TO REDUCE RISK:

1. Clean up must only be performed by a member of TSU staff.
2. Cut resistant gloves MUST be worn.

3. Safety glasses and a lab coat must be worn.

4. Safe Operating Procedure for clean up must be followed:

http://www.adelaide.edu.au/mbs/safety/register/SOP_Broken_Glass_in_Autoclave_30_03_11.pdf

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

HAZARD 7:

Disposal of Viable Biological Material

ASSOCIATED RISKS:

Contamination

MEASURES REQUIRED TO REDUCE RISK:

1. A spore test vial is included in all quarantine waste autoclave cycles. Spore testing is conducted monthly on all autoclaves.
2. If spore test fails for a quarantine waste autoclave cycle, the run is to be repeated with a new test vial and entry in log book reflects failed cycle.
3. Processed quarantine waste material shall be kept in the autoclave room yellow bin (labelled with "QUARANTINE WASTE" label) sealed with zip tie until the result of the spore test is known. When spore test result indicates a "pass", the yellow bin is then transported to the waste annexe for removal by Veolia.
4. Processed autoclave waste material is sealed in a yellow bin with a zip tie and then transported to the waste annexe for removal by Veolia.

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

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.