THE UNIVERSITY OF ADELAIDE AUSTRALIA

SAFE OPERATING PROCEDURE:

STERILE FILTRATION OF SOLUTIONS

LOCATION DETAILS		
School/Branch: School of Molecular & Biomedical Science		
SAFE OPERATING PROCEDURE DETAILS		
For sterile filtration of solutions		Date Prepared: 13/08/2009
PREPARED BY: Name, position, & Signature (insert names of supervisor, HSO, subject matter expert)		
Nicholas Eyre – Postdoctoral Researcher Kate Dixon – School Health & Safety Officer		Signature:
RISK ASSESSMENT		
Has a risk assessment been completed and all other environmental considerations been made? **YES**	See risk assessment dated: 13th August 2009	Risk Rating: ~~Low~~ Medium ~~High~~ ~~Very High~~

RISKS IDENTIFIED

- Physical effects from contact with chemical/biological agents
- Cuts/lacerations from shattered glass/waste receptacles

SAFETY PRECAUTIONS/MATERIALS USED

The following control measures MUST be adhered to:

- All staff/students must be given appropriate training by a competent person
- No eating or drinking in the laboratory
- Centrifuge, fume hood and Spill procedures may apply

MATERIALS

- Laminar flow hood/type II bio-safety cabinet
- Vacuum source (vacuum pump or plumbed vacuum)
- Solution to be filtered
- Sterile bottle-top filter (e.g. Nalgene Bottle Top Filters – 150ml or 500ml capacity, MF75 series. See below)
- Sterile glass bottle (e.g. Schott bottle) of appropriate size

PERSONAL PROTECTIVE EQUIPMENT REQUIRED

The following PPE must be worn at all times:

- Full length lab coat
- Safety glasses
- Closed shoes
- Full length gloves (ensure that any exposed skin is covered e.g. wrists)

SAFE OPERATING PROCEDURE

1. Switch on Type II bio-safety cabinet and allow to warm up if necessary.
2. Wipe surface with 80% ethanol (v/v)
3. Open sterile pre-packed bottle-top filter in hood and attach to bottle-top of appropriate size bottle.
4. Attach vacuum hose to side-arm and pour in solution to be filtered (e.g. cell culture media, wash buffer etc.)
5. Switch on vacuum
6. Once solution has passed through the filter, switch off the vacuum and detach filter.
7. Discard filter in autoclave bag
8. Wipe up any spills with 80% ethanol (v/v).
9. Replace lid on sterile solution.
10. Wipe surface with 80% ethanol (v/v).
11. Close bio-safety cabinet and switch on UV light to sterilise cabinet.

OTHER INFORMATION

- All used disposable plastic-ware must be disposed of in autoclave bags. When full, seal bags and transfer to locked bio-hazard “wheelie bin” (yellow) to outside containment area (lockable) for collection for incineration.
- All unwanted culture fluids and liquid waste from the above process must be treated with sodium hypochlorite solution to > 2.5% (w/v) (final concentration) for at least 15 minutes before tipping down the sink with running water. Alternatively, unwanted culture medium contained within sealable plastic containers may be sterilised by autoclaving before disposal as above.
- Spills of potentially contaminated materials should be wiped with sodium hypochlorite solution to >2.5% (w/v) (final concentration) and then 80% ethanol (v/v).
- Care should be taken to ensure that filtration is performed within the bio-safety cabinet behind the glass shield.
- All tubing, glass liquid waste traps, bottles and filters should be inspected before use for signs of cracking.
- Before and after work, surfaces should be wiped with 80% ethanol (v/v).
- Hands must be washed before and after handling culture media and disposable gloves, full-length laboratory gowns and safety glasses should be worn throughout the process.

ADMINISTRATION
Note: This Safe Operating Procedure must be reviewed : a) after any accident, incident or near miss; b) when training new staff; c) if adopted by new work group; d) if equipment, substances or processes change; or e) within 5 years of date of issue.