## Task/Process Details

<table>
<thead>
<tr>
<th>Task/Process ID</th>
<th>Effective Risk Level</th>
<th>Name: Working with toxins/venoms in the laboratory</th>
<th>Action: Risk is normally acceptable</th>
</tr>
</thead>
<tbody>
<tr>
<td>62317</td>
<td>Low</td>
<td></td>
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</tr>
</tbody>
</table>

**Author:** Amanda Jones  
**Last Updated By:** Amanda Jones On 10/11/2015 1:18:47PM

### Workplace Location of the Task/Process

- **Campus:** St Lucia Campus  
- **Faculty/Division:**  
- **School/Centre:**  
- **Other:** Your Organisational Unit  
- **Workplace:** Your workplace/lab  

### Risk is normally acceptable
Risk Situation: Envenomation

Process/Job Desc: Envenomation will only occur through a needle stick and then depression of the syringe to deliver venom. Venom in syringes should be at concentrations well below an estimated human lethal dose in a volume less than 100μl (such as 100 mg/ml for highly toxic venoms such as Naja naja which has an estimated human lethal dose of 10 mg). As needles are only used in situations such as in vivo testing, the amounts being worked with at any given time are less than the estimated human lethal dose (such as a typical rat injection would be only 10-50 μg).

Training Required: Yes

Energy Source: Chemical

Current Controls:
* Using appropriate personal protective equipment, including safety glasses, appropriate gloves (consider puncture proof gloves), lab coat and enclosed footwear.
* Following standard operating procedures/safe operating procedures/protocols
* Training from an experienced supervisor and supervision until deemed competent.
* Storing animal venoms/toxins in clearly labelled and sealed plastic containers, never glass.
* Emergency procedures including contact details of first aiders and SDS if available.

Hazard Event: Needle stick injury and then depressing plunger or deep puncture wound from broken glass vial containing venom/toxin.

Incident Category: Single contact with chemical or substance

Assessment Date: 04/11/2015

Risk Analysis

Consequence: Very Serious

Rationale: Envenomation from highly toxic venoms/toxins can lead to death.

Exposure: Very Rare

Rationale: No envenomation incidents have been recorded in UQ labs.

Probability: Remotely possible

Rationale: It is always possible if someone is distracted that the event described could happen.

Risk Level: Low

Action: Risk is normally acceptable

No Additional Controls
Risk Situation: Allergy induction

Process/Job Desc: Frequent or chronic exposure to dried venoms/toxins can result in development of an allergy. This may only cause sneezing and other 'hay-fever'-like symptoms in some persons, it may result in anaphylactic type reaction in others.

Training Required: Yes

Energy Source: Chemical

Current Controls:
* Avoid handling aerosolised venoms/toxins.
* Handling quantities >20mg must be done in a fume hood or while wearing a P1 half face particulate filter.
* Training by an experienced supervisor and supervision until deemed competent.
* Exclusion of any work who displays symptoms of allergy induction.
* Access to first aid including Epipen if identified as required (e.g. worker with known allergies present)
* Emergency procedures including contact details of first aiders and SDS if available.

Hazard Event: Inhalation of aerosolised or dried toxin/venom by a worker with symptoms of allergy induction or who is sensitive to the toxin/venom.

Incident Category: Long term contact with chemical or substance

Assessment Date: 04/11/2015

Risk Analysis

Consequence: Very Serious
Rationale: Untreated allergy induction could result in anaphylactic type reaction, which if not treated quickly could result in death.

Exposure: Rare
Rationale: No incidents reported for UQ labs, but has been reported elsewhere.

Probability: Remotely possible
Rationale: It is possible a new worker could have be extremely sensitive to a toxin or venom and not know until they come into contact with it.

Risk Level: Low
Action: Risk is normally acceptable

No Additional Controls
Risk Situation: Handling of commercial and non-commercial sources of animal venoms/toxins

Process/Job Desc: Applicable to all processes where animal venom, venom extracts, or their toxic components are handled (e.g. organ bath studies, HPLC, SDS PAGE analysis whole animal studies etc.). The animal venom/toxin may be in liquid or solid (lyophilized) form. Animal venoms could be from all types of toxic animals: arthropods, cnidarians, echinoderms, gastropods, fishes, mammals, reptiles or sponges.

Current Controls:
* Training from an experienced supervisor and supervision until deemed competent.
* Caution used at all times when handling animal venoms/toxins.
* Using appropriate personal protective equipment, including safety glasses, appropriate gloves, lab coat and enclosed footwear.
* Do not breath dust, use only in well ventilated areas, wear protective breathing apparatus when handling highly toxic venoms e.g. jelly fish venoms.
* Avoid creating aerosols and fine dust.
* Store animal venoms/toxins in clearly labelled and sealed containers in a well ventilated place.
* For commercially available venoms/toxins, follow the SDS (if available) for information on hazards, safe handling and storage.
* Follow standard operating procedures/ safety operating procedures/protocols.
* Have emergency procedures, including contact details of first aiders available.

Energy Source: Chemical

Inhalation of aerosolised/dried animal venom/toxin.

Hazard Event: Single contact with chemical or substance

Assessment Date: 10/11/2015

Risk Analysis

Consequence: Very Serious
Rationale: Inhalation could lead to intense pain, swelling, vomiting, infection, necrosis, haemorrhaging of internal organs/breakdown, blood cells destroyed, respiratory collapse, paralysis, death.

Exposure: Very Rare
Rationale: No incidents have been recorded in UQ labs.

Probability: Remotely possible
Rationale: All handlers of venoms/toxins are required to undertake training, but accidental contact may occur.

Risk Level: Low
Action: Risk is normally acceptable

No Additional Controls
## Chemical Risk Assessment Details

<table>
<thead>
<tr>
<th>Substances: (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance Name: Venom</td>
</tr>
<tr>
<td>UN Number:</td>
</tr>
<tr>
<td>Form: N/A</td>
</tr>
<tr>
<td>Concentration: dilute</td>
</tr>
<tr>
<td>DG Class: 6 - Toxic or infectious</td>
</tr>
<tr>
<td>Hazardous Substance: Yes</td>
</tr>
<tr>
<td>Storage Location: room number</td>
</tr>
</tbody>
</table>

### Health Effects
- NIL: No
- Irritant: No
- Corrosive: No
- Sensitiser: Yes
- Asphyxiant: Yes
- Toxic: Yes
- Carcinogenic: No
- Mutagenic: No
- Teratogenic: No
- Cytotoxic: Yes
- Neurotoxic: Yes
- Reproductive: No

### Hazardous Reactions
- NIL: Yes
- Explosive: No
- Flammable: No
- Peroxide forming chemicals: No
- Water reactive: No
- Oxidising agents: No
- Cryogenic: No
- Pyrophoric: No

### Route of Exposure
- NIL: No
- Inhalation: No
- Skin absorption: No
- Eye contact: No
- Ingestion: No
- Needlestick: Yes
- Presence of dusts/fumes/odours: No
- Leaks/spills/residues: No
- Worker symptoms and complaints: Yes
- Previous incidents and exposures: No
- Neighbouring activities impact: No
## Task Risk Assessment (Detailed)

This Task/Process Risk Assessment is not Complete

**Printed By:** Amanda Jones

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### Risk Control

**Elimination/Substitution:**

**Engineering Controls:** Biosafety cabinet or cytotoxic cabinet

**Effectiveness:** Effective and maintained well

**Administrative Controls:**
- Written safe working procedure
- Good housekeeping practices
- Good personal hygiene practices
- Supervision
- Written emergency procedures with contact details of first aiders and SDS if available

**Effectiveness:** Effective and maintained well

**Training Controls:**
- Training by experienced supervisor
- Completion of online Biosafety Training

**Effectiveness:** Effective and maintained well

**PPE Controls:**
- Appropriate Gloves
- Eye protection
- Footwear

**Effectiveness:** Effective and maintained well

**Waste Disposal:**
- All sharps must be disposed of via appropriate sharps containers.
- Other waste should be appropriately decontaminated and then disposed of in clinical waste stream.

**Storage Incompatibilities:**

**Safety Instructions:**

### Risk Determination

**Exposure Frequency:** Very Rare

**Risk Level:** Significant but controlled

**Air Monitoring:** No

**Health Surveillance Req:** No

**Schedule 10:** No  
**Carcinogen Authority No:**

**No Task Readers**

**No Training Specified**