# Skills Assessment

**Assessment event 2 of 2**

## Criteria

### Unit code, name and release number

MSL943004 - Participate in laboratory or field workplace safety (1)

### Qualification/Course code, name and release number

MSL30118 - Certificate III in Laboratory Skills (1)

MSS50218 – Diploma in Environmental Monitoring and Technology (1)

\*\*Amend the qualification box before distributing to the student. The information here should only contain the qualification the student is enrolled in\*\*

## Student details

### Student number

### Student name

## Assessment Declaration

* This assessment is my original work and no part of it has been copied from any other source except where due acknowledgement is made.
* No part of this assessment has been written for me by any other person except where such collaboration has been authorised by the assessor concerned.
* I understand that plagiarism is the presentation of the work, idea or creation of another person as though it is my own. Plagiarism occurs when the origin of the material used is not appropriately cited. No part of this assessment is plagiarised.

### Student signature and Date

Version: 1.0

Date created: 15/17/2019

Date modified: 24/01/2020

For queries, please contact:

Innovative Manufacturing, Robotics and Science SkillsPoint

Hamilton Campus

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RTO Provider Number 90003 | CRICOS Provider Code: 00591E

This assessment can be found in the: [Learning Bank](https://share.tafensw.edu.au/share/access/searching.do?doc=%3Cxml%2F%3E&in=P7ac4831b-430a-4b8d-8b56-f7b32ed5b9cf&q=&type=standard&sort=rank&dr=AFTER)

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## Assessment instructions

Table 1 Assessment instructions

| Assessment details | Instructions |
| --- | --- |
| **Assessment overview** | The objective of this assessment is to assess your skills as would be required to:   * Identify, control and report WHS and environmental hazards * Conduct work safely * Follow incident and emergency response procedures * Contribute to health and safety in the workplace |
| **Assessment Event number** | 1 of 2 |
| **Instructions for this assessment** | This is a skill based assessment and will be assessing you on your ability to demonstrate skills required in the unit.  This assessment is in 3 parts:   1. Demonstrations (1 to 4) 2. Observation Checklist 3. Assessment Feedback   Demonstrations 1 and 2 will be completed in a classroom and demonstrations 3 and 4 in the simulated laboratory. |
| **Submission instructions** | On completion of this assessment, you are required to upload it or hand it to your assessor for marking.  Ensure you have written your name at the bottom of each page of this assessment.  It is important that you keep a copy of all electronic and hardcopy assessments submitted to TAFE and complete the assessment declaration when submitting the assessment. |
| **What do I need to do to achieve a satisfactory result?** | To successfully complete this assessment the student will be available at the arranged time to complete all the assessment criteria as outlined in the assessment instructions.  All parts of the observable task must be performed to a satisfactory level as indicated in the criteria section of the Observation Checklist.  All oral questions must be answered correctly to be deemed satisfactory in this assessment task; however, Assessors may ask questions to clarify understanding. |
| **What do I need to provide?** | Writing equipment, PPE (safety glasses, enclosed shoes, laboratory coat) |
| **Due date/time allowed/venue** | TBA/2 hours/ TAFE classroom and laboratory |
| **Assessment feedback, review or appeals** | In accordance with the TAFE NSW policy *Manage Assessment Appeals,* all students have the right to appeal an assessment decision in relation to how the assessment was conducted and the outcome of the assessment. Appeals must be lodged within **14 working days** of the formal notification of the result of the assessment.  If you would like to request a review of your results or if you have any concerns about your results, contact your Teacher or Head Teacher. If they are unavailable, contact the Student Administration Officer.  Contact your Head Teacher for the assessment appeals procedures at your college/campus. |

## Specific task instructions

The instructions and the criteria in the tasks and activities below will be used by the assessor to determine whether the tasks and activities have been satisfactorily completed. Use these instructions and criteria to ensure you demonstrate the required skills and knowledge.

If this assessment requires you to record information, your assessor will provide you with an appropriate document/template.

**Brief**

The Assessment consists of 4 Demonstrations. All 4 Demonstrations will be based on the same 2 Tasks, identified as Tasks A and B.

Demonstrations 1 and 2 must be completed before commencing Demonstrations 3 and 4.

Demonstration 1 - involves the completion of JSEA’s for Tasks A and B. A blank JSEA is provided for each of task A and B. The SOP’s for tasks A and B can be found in the Appendix.

Demonstration 2 - requires you to ask questions of your assessor, for clarification of your WHS obligations related to Tasks A and B.

Demonstration 3 - involves physically carrying out Tasks A and B by referring to the Observation Checklist, and the SOP’s provided in the Appendix.

Demonstration 4 - involves the documentation of **any** incidents or hazards that arose during the completion of Demonstration 3.

Your assessor will provide any required templates as part of this assessment.

## Part 1: Demonstrations (1 to 4)

## To complete this part of the assessment, you will be required to participate in a practical demonstration of how to complete a task or activity.

These demonstrations will be observed by your assessor, or the student can digitally record them and submit them as evidence.

Your responses will be used as part of the overall evidence requirements of the unit.

You should refer to the list of criteria in the Observation Checklist to understand what you need to demonstrate in this section of the assessment. This Checklist outlines the assessment criteria used to assess your performance.

Once completed you will need to submit this assessment and the tasks and activities you are required to complete to your assessor for marking.

**Demonstration 1: *Identify, control and report WHS and environmental hazards***

Part of completing any laboratory task is ensure you remain safe and that the safety of others in your area is considered. A Job Safety and Environment Analysis is one way of identifying safety issues in the laboratory and considering ways of controlling the risks. For this Demonstration you are to read the SOP’s for tasks A and B identified below (found in the Appendix) and then:

Complete a TAFE NSW JSEA for each of the following tasks:

1. Cleaning a glass 600 mL beaker
2. Setting up and using a vacuum filtration apparatus to filter a water sample.

A TAFE NSW JSEA document has been provided in the following pages. Please complete a JSEA for each task.

**Job Safety & Environment Analysis Demonstration 1A**

**Activity/ Task:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Location:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Conducted by:** **In Consultation with:**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ D**ate Conducted:**

**Reviewed by**: **Comments:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Date Reviewed:**

**Reason for this risk assessment**– *refer to the* [*Procedure for WHS Risk Management*](https://staff.tafensw.edu.au/employee-essentials/work-health-and-safety/policies-and-procedures/)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Workplace Change  Work task / activity  New building/ facility | | Procure new plant  Commission new plant  Decommission plant | | | | New chemical or storage  Maintenance activity  Lease or contract | | | Staff work travel  Remote or lone working  Public event | Student excursion  Student off-site activity  Student work placement | | Other *(specify)* - | |
| **RISK ASSESSMENT SUMMARY** | | | | | | | | | | | | | |
| **Plant / vehicles / substances involved** | | | | **licenses / permits**  Driver’s licence  High Risk Work License  Plant operators license  Work at heights  Confined space entry permit  Hot work / permit to work  Other - | | | *What are the top 5 risks for this activity / task?*  1.  2.  3.  4.  5. | | | | *What are the top 5 safety controls?*  1.  2.  3.  4.  5. | | |
| **Required Protective Clothing and PPE** | | | | | | | **Other documents needed to manage the risks** | | | |  | | |
| T:\ADMINISTRATION OH&S UNIT\Safety Symbols\%OH&S Safety Symbols Australian\Mandatory symbols\Eye.jpg | T:\ADMINISTRATION OH&S UNIT\Safety Symbols\%OH&S Safety Symbols Australian\Mandatory symbols\Foot.jpg | | **T:\ADMINISTRATION OH&S UNIT\Safety Symbols\%OH&S Safety Symbols Australian\Mandatory symbols\Head.jpg** | | T:\ADMINISTRATION OH&S UNIT\Safety Symbols\%OH&S Safety Symbols Australian\Mandatory symbols\Hearing.jpg | | *E.g. Procedure / SOP / work instruction, safety data sheet (SDS), inspection checklists, health declarations etc.* | | | | | | |
| T:\ADMINISTRATION OH&S UNIT\Safety Symbols\%OH&S Safety Symbols Australian\Mandatory symbols\Protective clothing.jpg | T:\ADMINISTRATION OH&S UNIT\Safety Symbols\%OH&S Safety Symbols Australian\Mandatory symbols\Respiratory.jpg | | T:\ADMINISTRATION OH&S UNIT\Safety Symbols\%OH&S Safety Symbols Australian\Mandatory symbols\Apron.jpg | | T:\ADMINISTRATION OH&S UNIT\Safety Symbols\%OH&S Safety Symbols Australian\Mandatory symbols\Hand.jpg | | **Arrangements for First Aid and Emergencies** | | | | | | |
| **Other** *(specify) -* | | | | | | |
| HAZARD CHECKLIST | | | | | | | | RISK ASSESSMENT MATRIX | | | | |
| **Environment**  Weather  Hot or cold conditions  Air quality  Noise  UV exposure  Slip/trip hazards  Drowning  **Substances**  Hazardous chemicals  Explosives  Flammable substances  Toxic substances/ pesticides  Inhalable / respirable dust  Exhaust or other fumes  **Physical**  Pressure  Stored energy – mechanical  Stored energy - electrical  Stored energy – chemical  Confined spaces  Fall from height  Manual tasks / ergonomic  **Electrical**  Overhead power lines  Underground power lines  Arc welding  Power tools / leads  Electrical work  Portable power generators  Wet environments | | | | **Psychological and Social**  Stress  Fatigue  Violence / aggression  Drugs and alcohol  Isolation  Bullying and/or harassment  Communication barriers  **Biological**  Animal or insect bite  Riding or handling  Zoonosis  Infectious agents  Needle-stick / sharps  Bodily fluids  Contaminated waste  **Mechanical**  Traffic  Driving  Forklifts, Cranes etc.  Rotating / moving parts  Crushing  Shearing, cutting, stabbing  Vibration  **Environmental**  Air emissions  Release to stormwater  Chemical spill  Soil/groundwater contamination  Asbestos  Radioactive waste  Waste disposal | | | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  | **CONSEQUENCE** | | | | | | ***LIKELIHOOD*** | **Negligible** | **Minor** | **Medium** | **Major** | **Severe** | | ***Almost Certain*** | **9** Medium | **15** High | **18** High | **23 Critical** | **25 Critical** | | ***Likely*** | **7** Low | **12** Medium | **17** High | **20** High | **24** **Critical** | | ***Possible*** | **4** Low | **10** Medium | **13** Medium | **19** High | **22** High | | ***Unlikely*** | **2** Very low | **5** Low | **11** Medium | **14** Medium | **21** High | | ***Rare*** | **1** Very low | **3** Very low | **6** Low | **8** Low | **16** Medium |  |  |  | | --- | --- | | Likelihood description | | | Almost certain | Expected to occur in most circumstances. | | Likely | Can be expected to occur several times in the life of the particular work practice. | | **Possible** | Might occur occasionally in the life of the particular work practice. | | **Unlikely** | Not likely to occur, but could happen at some time. | | **Rare** | May happen but only in exceptional circumstances. | | **Consequence description** | | | **Severe** | Fatality and/or severe injury resulting in amputation or life support. | | **Major** | Hospital admission, and / or long periods off work and/or permanent impairment. | | **Medium** | Injury/illness requiring minor medical treatment, short duration lost time. | | **Minor** | First Aid treatment only. No lost time. | | **Negligible** | Does not require first aid. Minor discomfort. | | | | | |
|  | | | | |

**Risk Assessment**

| Activity / Situation / Location | Hazards | Risk Score | Controls | New Score |
| --- | --- | --- | --- | --- |
|  |  | Choose an item. |  | Choose an item. |
|  |  | Choose an item. |  | Choose an item. |
|  |  | Choose an item. |  | Choose an item. |
|  |  | Choose an item. |  | Choose an item. |
|  |  | Choose an item. |  | Choose an item. |
|  |  | Choose an item. |  | Choose an item. |

## Acknowledgement by Teachers / Other Staff

I have read and understood and/or been instructed in this risk management assessment and will implement all the requirements.

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Signature | Role | Date |
|  |  |  |  |

**Job Safety & Environment Analysis Demonstration 1B**

**Activity/ Task:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Location:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Conducted by:** **In Consultation with:**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ D**ate Conducted:**

**Reviewed by**: **Comments:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Date Reviewed:**

**Reason for this risk assessment**– *refer to the* [*Procedure for WHS Risk Management*](https://staff.tafensw.edu.au/employee-essentials/work-health-and-safety/policies-and-procedures/)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Workplace Change  Work task / activity  New building/ facility | | Procure new plant  Commission new plant  Decommission plant | | | | New chemical or storage  Maintenance activity  Lease or contract | | | Staff work travel  Remote or lone working  Public event | Student excursion  Student off-site activity  Student work placement | | Other *(specify)* - | |
| **RISK ASSESSMENT SUMMARY** | | | | | | | | | | | | | |
| **Plant / vehicles / substances involved** | | | | **licenses / permits**  Driver’s licence  High Risk Work License  Plant operators license  Work at heights  Confined space entry permit  Hot work / permit to work  Other - | | | *What are the top 5 risks for this activity / task?*  1.  2.  3.  4.  5. | | | | *What are the top 5 safety controls?*  1.  2.  3.  4.  5. | | |
| **Required Protective Clothing and PPE** | | | | | | | **Other documents needed to manage the risks** | | | |  | | |
| T:\ADMINISTRATION OH&S UNIT\Safety Symbols\%OH&S Safety Symbols Australian\Mandatory symbols\Eye.jpg | T:\ADMINISTRATION OH&S UNIT\Safety Symbols\%OH&S Safety Symbols Australian\Mandatory symbols\Foot.jpg | | **T:\ADMINISTRATION OH&S UNIT\Safety Symbols\%OH&S Safety Symbols Australian\Mandatory symbols\Head.jpg** | | T:\ADMINISTRATION OH&S UNIT\Safety Symbols\%OH&S Safety Symbols Australian\Mandatory symbols\Hearing.jpg | | *E.g. Procedure / SOP / work instruction, safety data sheet (SDS), inspection checklists, health declarations etc.* | | | | | | |
| T:\ADMINISTRATION OH&S UNIT\Safety Symbols\%OH&S Safety Symbols Australian\Mandatory symbols\Protective clothing.jpg | T:\ADMINISTRATION OH&S UNIT\Safety Symbols\%OH&S Safety Symbols Australian\Mandatory symbols\Respiratory.jpg | | T:\ADMINISTRATION OH&S UNIT\Safety Symbols\%OH&S Safety Symbols Australian\Mandatory symbols\Apron.jpg | | T:\ADMINISTRATION OH&S UNIT\Safety Symbols\%OH&S Safety Symbols Australian\Mandatory symbols\Hand.jpg | | **Arrangements for First Aid and Emergencies** | | | | | | |
| **Other** *(specify) -* | | | | | | |
| HAZARD CHECKLIST | | | | | | | | RISK ASSESSMENT MATRIX | | | | |
| **Environment**  Weather  Hot or cold conditions  Air quality  Noise  UV exposure  Slip/trip hazards  Drowning  **Substances**  Hazardous chemicals  Explosives  Flammable substances  Toxic substances/ pesticides  Inhalable / respirable dust  Exhaust or other fumes  **Physical**  Pressure  Stored energy – mechanical  Stored energy - electrical  Stored energy – chemical  Confined spaces  Fall from height  Manual tasks / ergonomic  **Electrical**  Overhead power lines  Underground power lines  Arc welding  Power tools / leads  Electrical work  Portable power generators  Wet environments | | | | **Psychological and Social**  Stress  Fatigue  Violence / aggression  Drugs and alcohol  Isolation  Bullying and/or harassment  Communication barriers  **Biological**  Animal or insect bite  Riding or handling  Zoonosis  Infectious agents  Needle-stick / sharps  Bodily fluids  Contaminated waste  **Mechanical**  Traffic  Driving  Forklifts, Cranes etc.  Rotating / moving parts  Crushing  Shearing, cutting, stabbing  Vibration  **Environmental**  Air emissions  Release to stormwater  Chemical spill  Soil/groundwater contamination  Asbestos  Radioactive waste  Waste disposal | | | | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  | **CONSEQUENCE** | | | | | | ***LIKELIHOOD*** | **Negligible** | **Minor** | **Medium** | **Major** | **Severe** | | ***Almost Certain*** | **9** Medium | **15** High | **18** High | **23 Critical** | **25 Critical** | | ***Likely*** | **7** Low | **12** Medium | **17** High | **20** High | **24** **Critical** | | ***Possible*** | **4** Low | **10** Medium | **13** Medium | **19** High | **22** High | | ***Unlikely*** | **2** Very low | **5** Low | **11** Medium | **14** Medium | **21** High | | ***Rare*** | **1** Very low | **3** Very low | **6** Low | **8** Low | **16** Medium |  |  |  | | --- | --- | | Likelihood description | | | Almost certain | Expected to occur in most circumstances. | | Likely | Can be expected to occur several times in the life of the particular work practice. | | **Possible** | Might occur occasionally in the life of the particular work practice. | | **Unlikely** | Not likely to occur, but could happen at some time. | | **Rare** | May happen but only in exceptional circumstances. | | **Consequence description** | | | **Severe** | Fatality and/or severe injury resulting in amputation or life support. | | **Major** | Hospital admission, and / or long periods off work and/or permanent impairment. | | **Medium** | Injury/illness requiring minor medical treatment, short duration lost time. | | **Minor** | First Aid treatment only. No lost time. | | **Negligible** | Does not require first aid. Minor discomfort. | | | | | |
|  | | | | |

**Risk Assessment**

| Activity / Situation / Location | Hazards | Risk Score | Controls | New Score |
| --- | --- | --- | --- | --- |
|  |  | Choose an item. |  | Choose an item. |
|  |  | Choose an item. |  | Choose an item. |
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|  |  | Choose an item. |  | Choose an item. |
|  |  | Choose an item. |  | Choose an item. |

## Acknowledgement by Teachers / Other Staff

I have read and understood and/or been instructed in this risk management assessment and will implement all the requirements.

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Signature | Role | Date |
|  |  |  |  |

**Demonstration 2: *Oral communication skills***

It is always important to be fully informed about any task you are asked to conduct in the laboratory or field.

1. Based on the JSEA’s that you completed for demonstration 1, prepare three questions you could ask that would provide you with clarification of your obligations as they relate to procedures and work instructions that impact on safety and legal liability.

Question 1

Question 2

Question 3

1. Participate in a face-to-face discussion with the assessor to ask the prepared questions and respond to any answers provided by the assessor.

**Demonstration 3: *Conduct work safely***

1. Clean a glass 600 mL beaker following the Standard Operating Procedure M131 provided (see Appendix).
2. Set up and use a vacuum filtration apparatus to filter a water sample following the Standard Operating Procedure M132 provided (see Appendix).

You have already completed a TAFE NSW JSEA for Tasks A and B above, and asked questions to clarify your understanding of the impacts on safety and legal liability.

Next, you are to actually complete Tasks A and B in your laboratory. The completion of the above laboratory tasks will be observed by your Assessor. Each one of these tasks will be observed by the Assessor.

You will be required to follow the steps below, when completing each Task A and B:

1. Select, fit and use appropriate PPE for the task
2. Check for hazards before and during the task
3. Follow laboratory Standard Operating Procedure for the task
4. Maintain laboratory personal hygiene requirements
5. Maintain the work area clean and tidy
6. Return all equipment, materials and chemicals at the conclusion of the task
7. Dispose of hazardous materials by following the SOP

**Demonstration 4: *Reports WHS and environmental hazards and incidents***

Documentation is important for any incident or emergency. You should complete the table below at the completion of performing tasks A and B. The response of Not Applicable (NA) should be used where there was no issue.

1. Record and report any incident or emergency including your actions.

|  |  |  |
| --- | --- | --- |
|  | Glass Cleaning  Task A | Vacuum Filtration  Task B |
| Date |  |  |
| Incident |  |  |
| Issue |  |  |
| Action Taken for issue |  |  |
| Emergency |  |  |
| Action Taken for emergency/ equipment required and its location |  |  |
| Reported to:  Indicate WHO you should report an incident or emergency to |  |  |
| Signed: |  |  |

## Part 2: Observation Checklist

The Observation Checklist will be used by your assessor to mark your performance in the demonstrations. Use this Checklist to understand what skills you need to demonstrate in the demonstration. The Checklist lists the assessment criteria used to determine whether you have successfully completed this assessment event. All the criteria must be met. Your demonstration will be used as part of the overall evidence requirements of the unit. The assessor may ask questions while the demonstration is taking place or if appropriate directly after the task/activity has been completed.

Table 2 Observation Checklist

| Demo | Task/Activity Performed | Task A | | Task B | | Assessor Comments (Describe the student’s ability in demonstrating the required skills and knowledge) |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | S | US | S | US | *Assessors are to record their observations in sufficient detail to demonstrate their judgement of the student’s performance against the criteria required* |
| *Any breach of safety will result in the Assessment Event being stopped.* | | | | | | |
| **1** | ***Identify, control and report WHS and environmental hazards*** | | | | | |
| 1.1 | Completes and submits a JSEA for each of the required tasks |  |  |  |  | *Date of Observation:* |
| **2** | ***Oral communication skills*** | | | | | |
| 2.1 | Prepares 3 questions to clarify obligations, procedures and work instructions to get an understanding of how these impact on safety and legal liability |  |  |  |  |  |
| 2.2 | Participate in a face-to-face discussion with the assessor to ask the prepared questions and respond to any answers provided by the assessor |  |  |  |  |  |
| **3** | ***Conduct work safely*** | | | | | |
| 3.1 | Selects, fits and uses ,the correct PPE for the task |  |  |  |  |  |
| 3.2 | Checks for and addresses any hazards and incidents prior to commencing and during the task |  |  |  |  |  |
| 3.3 | Follows the laboratory SOPs for the task |  |  |  |  |  |
| 3.4 | Maintains laboratory standards of personal hygiene requirements throughout the task |  |  |  |  |  |
| 3.5 | Keeps the work area clean and free of obstacles throughout the task |  |  |  |  |  |
| 3.6 | Returns all equipment, materials and chemicals to appropriate storage area at the conclusion of the task |  |  |  |  |  |
| 3.7 | Disposes of any hazardous materials according to the SOP |  |  |  |  |  |
| **4** | ***Reports WHS and environmental hazards and incidents*** | | | | | |
| 4.1 | Reports and records any additional hazard or incident that arises during the task |  |  |  |  |  |

## Part 3: Assessment Feedback

*NOTE: This section* ***must*** *have the assessor signature and student signature to complete the feedback.*

### Assessment outcome

Satisfactory

Unsatisfactory

### Assessor Feedback

Was the assessment event successfully completed?

If no, was the resubmission/re-assessment successfully completed?

Was reasonable adjustment in place for this assessment event?  
*If yes, ensure it is detailed on the assessment document.*

Comments:

### Assessor name, signature and date:

### Student acknowledgement of assessment outcome

Would you like to make any comments about this assessment?

### Student name, signature and date

***NOTE: Make sure you have written your name at the bottom of each page of your submission before attaching the cover sheet and submitting to your assessor for marking.***

***Appendices***

1. Standard Operating Procedure

M131: General Glass Cleaning

**Hard Copy No: \_\_\_\_\_**

**CONTROLLED DOCUMENT**

|  |  |  |  |
| --- | --- | --- | --- |
| **Version No.** | **Date** | **Description of Amendment** | **Approved by** |
| 1 |  | New document |  |
|  |  |  |  |
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# **INTRODUCTION**

A working laboratory generally creates large quantities of glassware that must be cleaned before the next use. Cleaning is easier if the wash process is completed before any contaminants have a chance to stick to the glass.

Cleaning methods can include any of the following and sometimes a combination of the following methods:

* Solvents
* Strong acids
* Abrasives
* Sanitising agents

The ’bead’ test is a way of determining if the glass is clean. If water beads on the glass surface it is not clean. Water will sheet on clean glass walls.

# **PURPOSE**

The purpose of this procedure is to ensure consistency in cleaning operations associated with glassware used for laboratory analysis.

# **SCOPE**

This standard operating procedure applies to glassware that does not have to be free of micro-organisms i.e. sterile.

# **RESPONSIBILITIES**

The Laboratory Manager or their delegate has overall responsibility for this standard operating procedure. They are to review any problems experienced (non-conforming product/service) and take appropriate action. The problem and any actions taken are then to be recorded.

Laboratory staff, if appropriately trained, may undertake responsibility for all tasks in this standard operating procedure.

# **RELATED DOCUMENTS**

This procedure should be read in conjunction with the following related documents:

* Laboratory Manual
* Quality Control Manual
* WHS Manual

1. **WHS**
   1. **Clothing**

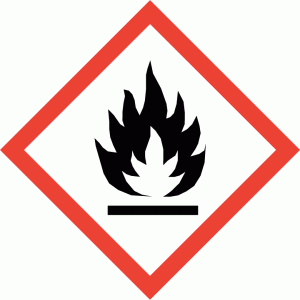
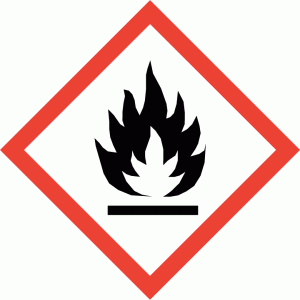
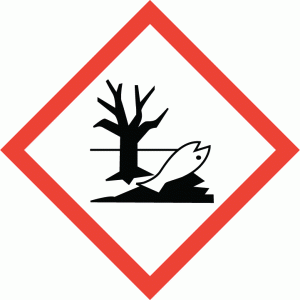
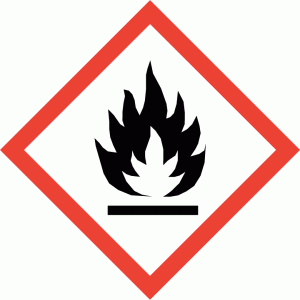
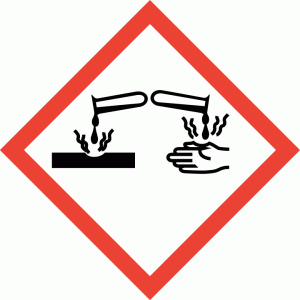
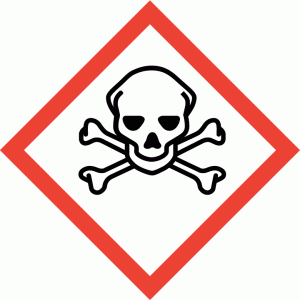
Wear the following PPE when conducting this standard operating procedure:

* Closed footwear
* Laboratory coat
* Safety glasses
* Gloves
  1. **Housekeeping**

Wash hands and ensure the workstation is clean and tidy before commencing this standard operating procedure. When the task is complete, wash hands, clean the workstation and dispose of any waste materials according to workplace procedures

* 1. **General safety**
     1. Sharp edges on damaged glassware
     2. Corrosive nature of some cleaners
     3. Manual handling of wet glassware

# **PROCEDURE**

* 1. **Materials, reagents and equipment**
     1. Materials
* Dirty glassware
  + 1. Reagents (the actual cleaning agent will depend on the nature of the ‘dirt’)
* Soap/detergent
* Water
* Specialised cleaning powders/solutions
* Organic solvents such as
* Ethanol  
* hexane    
* propanone  
* Concentrated acids or bases such as:
* Sulfuric acid   
  + 1. Equipment
* Tissues/wipes
* Non-scouring pads (green kitchen type)
* Brushes of various sizes (test tube/beaker/burette)
* Ultrasonic baths (useful for small objects such as micro test tubes.
* Containers large enough for soaking
  1. **Method**

**PRE-TREATMENT**

* + 1. Check the item for cracks, chips, sharp edges. Discard the item (in the appropriate waste container) if any of these are found.
    2. Using a tissue/wipe carefully remove any dirt that can be wiped off (such as stopcock grease).

**METHOD** (the general procedure can be repeated for various cleaning agents)

* + 1. Rinse the item under running water
    2. Use a non-scouring pad to gently remove any adhered dirt.
    3. If the item requires further cleaning obtain the laboratory detergent and a cleaning brush.
    4. Take care as the item may become slippery when being handled.
    5. Place a small amount of the cleaning agent on the glass item and gently scrub with a brush or soft cloth.
    6. Rinse with running water.
    7. If clean rinse in distilled water and leave to dry.
    8. If not clean, repeat the process using a different cleaning product or prepare a bath in an appropriate container and leave the item to soak.
    9. If an ultrasonic bath is to be used place the item in the tank with the cleaning solution
    10. Turn on the ultrasonic cleaner and leave on for several minutes.
    11. Check to see if the item is clean. If not repeat the process.
    12. When clean repeat 7.2.8 and 7.2.9
    13. Clean up the area and place all materials/reagents/equipment in the appropriate place
    14. Dispose of all wastes according to laboratory protocols

Notes:

* The procedure above is provided in detail for the use of soap/detergent and water.
* If the nature of the ‘dirt’ residue is known the appropriate cleaning agent may be chose directly.
* If the glass has not cleaned it may require soaking for a period of time in a different solution. The appropriate method should be followed for this
* Care should be taken with the disposal of any chemical wastes.

1. Standard Operating Procedure

M132: Vacuum Filtration of water sample

**Hard Copy No: \_\_\_\_\_**

**CONTROLLED DOCUMENT**

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# **INTRODUCTION**

Filtration is a process that is suitable for separating an insoluble solid from a liquid. Vacuum filtration provides a fast way of filtering large volumes of material.

A simple arrangement that is often used for the determination of total suspended solids (TSS) and total dissolved solids (TDS) is shown below.



Fig 1 vacuum filtration apparatus © TAFE NSW 2019

# **PURPOSE**

To assemble a vacuum filtration apparatus and filter a water sample.

# **SCOPE**

This standard operating procedure applies to all procedures where filtration under vacuum is required.

# **RESPONSIBILITIES**

The Laboratory Manager or their delegate has overall responsibility for this standard operating procedure. They are to review any problems experienced (non-conforming product/service) and take appropriate action. The problem and any actions taken are then to be recorded.

Laboratory staff, if appropriately trained, may undertake responsibility for all tasks in this standard operating procedure.

# **RELATED DOCUMENTS**

This procedure should be read in conjunction with the following related documents:

* Laboratory Manual
* Quality Control Manual
* WHS Manual

1. **WHS**
   1. **Safety**

6.1.1 Risk of implosion

6.1.2 System operates under vacuum. Check all glassware for faults and do not use

any glassware that is chipped, cracked etc.

6.1.3 Vacuum hosing must be checked to ensure it has not started to deteriorate.

6.1.4 Eye protection must be worn

* 1. **Clothing**

Wear the following PPE when conducting this standard operating procedure:

* Closed footwear
* Laboratory coat
* Safety glasses
* Gloves – (for contaminated samples)
  1. **Housekeeping**

Wash hands and ensure the workstation is clean and tidy before commencing this standard operating procedure. When the task is complete, wash hands, clean the workstation and dispose of any waste materials according to workplace procedures

# **PROCEDURE**

* 1. **Materials, reagents and equipment**
     1. Materials
* Water samples
  + 1. Reagents
* Distilled water
  + 1. Equipment
* Membrane filtration apparatus (see Fig 2)
* Filter paper (pre-dried and weighed if for TSS)
* Vacuum tubing
* Tweezers



Fig 2 Membrane filtration equipment © TAFE NSW 2019

* 1. **METHOD**

**Assembly**

* + 1. Obtain all the equipment required for the filtration.
    2. Check the hosing and all equipment is in good order.
    3. If the total suspended solids is to be determined the
    4. Assemble the apparatus ensuring there is a good seal between the plug and the flask and the correct filter paper has been selected.
    5. Attach the vacuum hose ensuring the hose is not pushed too far onto the arm of the flask.
    6. Ensure the clamp is secure.

**Filtration**

* + 1. Switch (turn) on the vacuum pump slowly. **Note**: the system does not require high vacuum to work efficiently.
    2. Carefully pour the water sample through the top of the apparatus. **Note:** the actual volume will be dependent on the type of sample and the actual test being conducted. The volume should be recorded if directed in the SOP.
    3. Allow the sample to completely pass through the filter paper.
    4. If the filtrate (bottom layer) is not required, rinse the sides of the top and the filter paper three times.
    5. Break the seal of the system by carefully removing the vacuum hosing. If the vacuum is turned off before the system is open liquid may suck back into the pump.
    6. Carefully remove the clamp and the funnel.
    7. Use the tweezers to remove the filter paper
    8. Either dispose of the filter paper or place the filter paper on watchglass and dry if required for TSS determination.
    9. Pour the filtrate into the appropriate container depending on the use required.
    10. Carefully wash, dry and return all equipment to storage.