




Safe Work Procedures (SWP)

JCUS-STL_LM_SOP_GD_r01

Name of Activity/Equipment	Using chemicals in the laboratory		
Author	Joseph Uichanco	Risk Rating:   	LOW
RiskWare #	10446		

Report all incidents immediately. If additional risks are identified, complete a separate risk assessment in RiskWare.
DO NOT PARTICIPATE IN OR CARRY OUT ACTIVITY IF YOU ARE NOT PHYSICALLY AND PSYCHOLOGICALLY CAPABLE.
Discuss any fitness-for-work requirements (e.g., fatigue, injury, illness, and medication effects) with your supervisor.

ACTIVITY SPECIFIC CONTROLS

Pre-operational safety checks

- ☐ Plan activity in advance.
- ☐ Consult MSDS to be familiar with the chemicals you will be working with.
- ☐ Prepare and organize work area.



Untrained users must operate under supervision.

Operation and safety checks

- ☐ Use the proper PPE: Lab coat and gloves. Wear closed shoes. Safety glasses are a must when handling hazardous chemicals.
- ☐ **Use the fumehood**, if necessary, e.g., handling volatile chemicals that produce noxious fumes, handling flammable or explosive chemicals, handling strong acids and bases, etc.
- ☐ Ensure all chemical containers are properly labelled: chemical ID, concentration, date prepared, date expiring (if applicable), person-in-charge and/or project/class, storage conditions e.g. keep in -20°C, etc.
- ☐ **Use GHS hazard symbols on chemical containers.**
- ☐ Collect chemical waste in proper manner.



Be mindful of contaminated gloves. Do not touch door handles, keyboard and mouse, or other surfaces that might expose other people to the chemicals.



Be very careful when working with flammable/explosive chemicals and nearby heat sources or potential sources of electrical sparks. Flammable chemicals must be stored in the flammables cabinet or explosion-proof refrigerator/freezer.



Do not add water to a strong acid.



No food and drink may be consumed in the laboratory.



Clean up any spills immediately. Use the chemical spill kit if there is a major spill.

Post-Operation

- ☐ Tidy up.
- ☐ Dispose collected chemical waste properly. Consult MSDS for appropriate disposal methods.
- ☐ Place chemicals into proper storage. Consult MSDS for appropriate storage conditions.
- ☐




Wash hands after handling chemicals.

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PERSONAL PROTECTIVE EQUIPMENT *The following PPE are necessary to complete the task.*



SCOPE *(detail who, what and when this SWP applies)*

Students and staff in the lab

This SWP applies to the use of general chemicals at the Science Teaching Laboratory and the Aquaculture Research and Teaching Facility as listed at <https://www.nimbbler.com/chemicals/> and where the chemical's hazard category is not defined. Chemicals with no defined hazard category are those that have low risk and/or are not regulated.

For regulated chemicals (e.g., NEA-regulated hazardous substances or SCDF-regulated P&FM), these should be risk assessed separately.

Regardless of hazard category, specific Safe Work Procedures might also be available for some selected items.

RISKS *(list the risks that are associated with this activity / equipment)*

Risks of injury from exposure to chemicals: direct contact to skin or eyes, inhalation, ingestion

Risk of fire from use of flammable chemicals

ENVIRONMENTAL IMPACT *(list the environmental impacts that are associated with this activity / equipment)*

Release of certain chemicals to environment may have negative outcomes

MINIMUM SKILLS / EXPERIENCE / QUALIFICATIONS

Ability to follow instructions by supervisor

Ability to read and understand this SWP document

SUPERVISION & MINIMUM NUMBER OF PERSONS

None

EQUIPMENT & FACILITIES *(not including PPE identified above)*

Fume hood

Chemical waste collection vessel

GHS hazard stickers


COMPLETION, HOUSEKEEPING, MAINTENANCE *(list method for chemical disposal, etc.)*

Dispose chemicals properly. Consult the MSDS. In many instances, chemicals can be safely disposed in the drain after sufficient dilution with water. In other instances, the chemicals may need to be collected for disposal by an

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appointed chemical waste disposal company. Be mindful of any chemical incompatibilities. Label the waste collection vessels clearly and indicate the start date of accumulation.

EMERGENCIES *(identify the types of emergencies and the response)*

Chemical and biological spills must be addressed immediately by the user or competent lab staff. Refer to the MSDS and use available spill kit if necessary.

Exposure to chemical and biological hazards must be addressed by seeking help from lab staff. Emergency shower and eyewash stations are available. Refer to the MSDS for more specific actions.

Bodily injuries shall be attended to by any available First Aider. The First Aid Kit is available from the Lab Office (E1-07) or by calling the JCU Facilities Hotline at local 890 (or 6709 3890). For more serious injuries, call an ambulance at 995 to receive proper medical attention.

Fires must be quickly contained using available fire extinguishing equipment. Consult the MSDS. Consult the FEP. Call JCU Facilities hotline at local 890 (or 6709 3890) for fire and other infrastructure emergencies.

In all cases of emergencies and other similar incidents or accidents, please inform the lab manager or any JCU staff. The lab manager may be reached at local 751 (of HP# 9114 2834). Refer to the lab's Emergency Response Plan (ERP). The ERP is available in indicated locations around the lab, in the lab office (E1-07), or may be accessed via the lab online portal.

MSDS documents may be accessed via ChemWatch or the lab online portal.
The lab online portal may be accessed via links indicated around the lab.

COMPLIANCE REQUIREMENTS *(including licenses, approvals, permits)*

Hazardous Substances permit

REFERENCES *(resources that can be referenced for further information)*


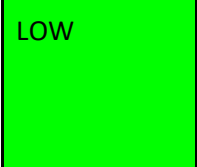
Singapore Ministry of Manpower - Workplace Safety and Health Act (Chapter 354a, Section 65) Workplace Safety And Health (General Provisions) Regulations

Queensland Government - Work Health and Safety Regulation 2011

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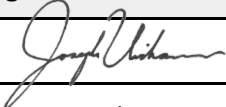
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CHANGE LOG

Date	Author	Details
29/11/2019	Joseph	V1: Authored first draft.
16/12/2022	Joseph	V2: Reviewed the SWP. Added new content on the use of flammable chemicals, etc.


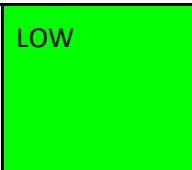
APPROVALS

Designation	Name	Date signed	Signature
Laboratory Manager	Joseph Uichanco	16/12/2022	
Campus Dean	Dr. Abhishek Bhati	Approval is logged at SAI360 portal.	
Deputy Vice Chancellor	Dr. Chris Rudd	Approval is logged at SAI360 portal.	

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PERSONNEL PERFORMING TASK SIGN ON:

In signing on, I have read and understood my obligations to comply with the requirements of this SWP.

I have been provided with an opportunity to provide feedback on this SWP and I will advise my direct manager or supervisor in the event that additional hazards are identified.

Name	Date	Signature

JCU staff and students may “sign” by accomplishing the

[SWP Compliance Form.](#)



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