Sydney Liu Lau

Safe Work Procedure

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Document Details

Enter the details of the document. The Safe Work Procedures Guideline (HS027) should be consulted to assist in the completion of this form.

Document Number	DVCRES-ANALYT-SWP-2280	Current Author	Sydney Liu Lau	Original Author	Leanne Stephenson
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Title * BMSF - Preparation of Solvents and Samples within the BMSF Lower Campus Facilities

Faculty * DVC (Research)

School * UNSW Analytical Centre

Approver * Mark Raftery

Period of Time Before Next Review ○ 6 months ○ 1 year ○ 2 years ◉ 3 years ○ N/A

OR

Next Review Date 14/06/2023

Next Review Date Reminder ☐ 1 day ☐ 5 days ☐ 10 days ☐ 15 days ☑ 30 days ☐ 45 days ☐ 60 days ☐ 90 days

Safe Work Procedure Details

Safe Work Procedure Description: Preparation of solvents and samples in B32 chemical wet lab for chromatography and mass spectrometry analysis.

Locations: KENC-F10-B-B32

Related Legislation, Standards, Codes of Practice etc. *: WHS Act 2011; WHS Regulations 2017

Related Safety Documents

Related Equipment: -

Related Activities: -

Hazards and Risks

Use this section to list each task/scenario and its associated hazard and risk. You can choose multiple tasks by clicking on 'Add new

Use this section to list each task/scenario and its associated hazard and risk. You can choose multiple tasks by clicking on 'Add new hazard' at the end of this box

Hazard Category *	Chemical exposure - Spill
Controls *	All solvents and samples must be prepared in fume cupboard in B32. Clean up spills immediately - refer to MSDS of individual chemical for details on how to clean up spills or deal with exposure. Personal protective equipment (lab coat, safety glasses, closed toe shoes and gloves) must be worn when cleaning up spills.
Hazard Category *	Sharps/Needlesticks
Controls *	Personal protective equipment (lab coat, safety glasses, closed toe shoes and gloves) must be worn. Any broken glass must be disposed of immediately into the broken glass bins.

Safe Work Procedure Instructions

Resources Required

Chemicals:

- Mobile phase solvents
- Samples
- Standards

Equipment/Consummables:

- Glass bottles for solvents
- Measuring cylinders
- Sample vials/tubes
- Sample racks
- Balance
- Vortex mixer

Personal protective equipment:

- Lab coat
- Safety glasses
- Closed toe shoes
- Gloves

Instructions *

Preparation: Samples and mobile phase solvents must be prepared in BMSF wet lab areas in B32 or in operator's laboratory prior to commencement of this procedure. Always use HPLC grade purity solvents. Solvents must be stored in labelled containers and disposed of in appropriate waste containers (i.e halogenated or non/halogenated waste).

Preparation of Chromatography Solvents

1. Clean glassware required to make up solvent as required. It is suggested to rinse the glassware with MilliQ water, methanol, and then the major solvent you will use (note if this is a 50:50 mixture use the most organic solvent to do this) – ensuring the waste is disposed of appropriately as per UNSW waste guidelines.

2. Place the required number of solvent bottles in the fume hood.
3. Measure out the required amount of MilliQ water into a measuring cylinder. Transfer to the fume hood and decant into the solvent bottle.
4. Remove the required organic solvents or reagent from the storage cabinet and place in the fume hood or next to balance.
5. If necessary weigh out the required chemical into a weigh boat and transfer the chemical to the fume hood. Add to the solvent. Replace the chemical back in the appropriate storage cabinet and clean the balance.
6. Decant the required amount of organic solvent into a measuring cylinder and replace the solvent back in the appropriate storage cabinet.
7. Add the measured organic solvent to the bottle, wash the measuring cylinder and replace in the cupboard.
8. If a liquid modifier is to be used in the solvent, remove from the cabinet under the fume hood and place in the fume hood. Measure out the required amount as necessary. Do not pipette directly out of these bottles as this may cause cross contamination. 20mL scintillation vials are available to pour small amounts into as required. Replace the bottle in the appropriate storage cabinet and add the modifier to the solvent.
9. Mix your solvent thoroughly. If you have used a solid it is recommended to filter your solvent. Filtration equipment is available within the BMSF, but only a limited range of solvent filters are kept. If you need to filter your solvent please contact a member of staff.
10. A clean label should be obtained from the label folder in B32, and attached to the solvent bottle to identify all solvents. If a solvent composition label of the necessary solvent levels is not available a similar label may be amended. If no label is suitable in the label folder then contact a member of staff to arrange for one to be printed.

Preparation of samples

1. Label the sample tubes and place in the appropriate rack. Label rack with yellow hazardous material label provided in the Labels folder.
2. If necessary weigh out the required sample into a sample tube and clean the balance.
3. Remove the required solvents or reagent from the storage cabinet and place in fume hood.
4. Measure out the required amount as necessary. Do not pipette directly out of these bottles as this may cause cross contamination. 20mL scintillation vials are available to pour small amounts into as required.
5. Transfer the scintillation vials to the bench and return solvents to the appropriate storage cabinet.
6. Dilute samples as necessary and dispose of waste appropriately.

Emergency Procedures *

For preparation done in the fume hood, services can be cut by using the emergency stop button, or hitting the services button. If any equipment is damaged by a chemical and it is safe to do so it may be turned off at the wall.

For hazardous spills/splashes and exposure, refer to MSDS of individual chemical for details on how to deal with hazards and or clean up. Spill kits are also available in both B32 and B50.

In the event of a fire evacuate the area and contact security/emergency personnel. Leave the building via the emergency staircase and assemble on the Village Green.

Cleanup and Waste Disposal Instructions

Cleanup:
Clean up spills immediately. Refer to MSDS for individual chemicals for details on how to clean up spills.
Spill kits are available and located within the B32 and B50 laboratories.

Waste Disposal:
Solvents: Non-halogenated/halogenated solvents must be disposed into the corresponding waste containers.
Vials: Vial waste is disposed into vial waste labelled containers.
Glass: Broken glass is disposed of in the glass bins.
Plastics: Plastic waste should be disposed of in the plastic waste bin.
Sharps: Sharps are disposed of in the yellow sharps bin.

Gloves: Gloves are disposed of in gloves waste bins.

Note: Ensure those waste containers are not overfilled.

Competency and Training Required	This document must be read.
Competency Levels *	1. Read Document
	Only add descriptions below for competency levels chosen above
Training Description	
Knowledge Test Description	
License/Cert Description	
Other Competency Description	
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Declare As Read | Close

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