

Research Laboratory-Specific Training: Rooms and Equipment

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**RESEARCH LABORATORY:**

Location of Lab(s): \_\_\_\_\_

**Emergency Contact of Supervisor**

Name: \_\_\_\_\_

Office Location:

Building/Room #	Campus Phone Number	Emergency Phone Number

**Laboratory Safety Representative**

Name: \_\_\_\_\_

Desk Location:

Building/Room #	Campus Phone Number	Emergency Phone Number

**Location of Safety Equipment**

Safety Item	Room:	Room:	Initials	Date
Fire Alarms				
Fire extinguisher& type (i.e. A,B,C,D)				
Fire Exits				
Emergency Phone				
Eyewash Station				
Emergency Shower				
MSDS forms				
Electrical Shut Off				
Gas Shut Off				
Evacuation Assembly Area				
Spill Cart #1				
Spill Cart #2				
Floor Fire Warden				
First Aid Attendant				
First Aid Station				
Where is AED located?				
Supervisor's Initials and Date				

**Basic Equipment/Procedure Training**

As a graduate student or postdoctoral fellow, it is expected that you will have completed an undergraduate degree where you will have been shown the proper use of many pieces of lab equipment and basic laboratory chemicals. **Putting your initials in the box below will indicate that you have been previously trained, understand and are comfortable in the basic operation of the following.** If you don't remember the proper use of the lab equipment from your undergraduate degree, **do not initial the box.** Please ask your supervisor for further assistance.

Equipment/Procedure	Initials	Date
Proper handling and use of all standard chemical glassware and knowledge of common risks (such as star cracks).		
Proper use and upkeep of laboratory balances.		
Proper use and upkeep of laboratory stir plates, hotplates, and hotplate stirrers.		
Proper use and upkeep of standard laboratory membrane and belt drive vacuum pumps.		
Proper procedure for atmospheric and reduced pressure distillations and knowledge of common risks (i.e. as never heat a closed system).		
Proper procedure for performing gravity and flash column chromatography.		
Proper procedure for performing gravity and vacuum filtrations.		
Proper procedure for running and analyzing thin layer chromatography, including cutting the plates and hazards associated with the stains.		
Proper procedure for using UV lamps.		
Proper procedure for using heat guns.		
Proper use and upkeep of vacuum manifolds.		
Proper use and upkeep of fume hoods.		
Proper use and disposal of laboratory syringes and needles.		
<b>Supervisor's Initials</b>		

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Equipment/Procedure	Initials	Date
Proper use procedure for separatory funnel use and knowledge of common risks (such as pressure build-up).		
Proper use, transportation, and disposal of solvents		
Proper use and handling of flammable solvents.		
Proper use and handling of toxic solvents.		
Proper use and handling of solvents that effectively permeate the skin (solvents with skin permeability comparable to DMSO)		
Proper use and handling of laboratory chemicals with a flammability hazard class between 0 and 3.		
Proper use and handling of laboratory chemicals with a reactivity hazard class between 0 and 3.		
Proper use and handling of laboratory chemicals with a health hazard class between 0 and 3.		
Proper use, handling, transportation, and disposal of concentrated hydrochloric, acetic, and sulfuric acid.		
Proper use, handling, transportation, storage, and disposal of acidic or basic solutions.		
Proper use, handling, transportation, storage and disposal of oxidants.		
Proper use, handling, transportation, storage and disposal of reductants.		
<b>Supervisor's Initials</b>		

### Advanced Equipment/Procedure Training

The following is a list of advanced equipment/procedures/chemicals that you are not allowed to use until you have had specialized training at UBC (even if you have been trained at a previous institution). You must be (1) trained by qualified laboratory personnel and (2) supervised in the safe operation of the following advanced procedures. Initial and date the box when you have been trained and supervised in the safe operation of the procedure **and** you are confident that you can perform the task safely.

**Note:** The training can be done by the PI or by someone designated by the PI who is qualified in the safe operation of the procedure. Do not initial the box until the student has demonstrated that they can perform the operation safely.

Equipment/ Procedure	Trainee Initials/ Date	Supervised by/ date	PI Initials/ date
Proper use, handling, transportation and storage of LN <sub>2</sub> , Dry Ice and cryogenics generally.			
Proper procedure for using open flames, such as Bunsen burners and propane torches			
Proper procedure for attaching tubing (Tygon or rubber) to glass.			
Proper use and upkeep of microwave reactors.			
Proper use and upkeep of sodium solvent stills			
Proper use and upkeep calcium hydride solvent stills.			
Proper use and upkeep of rotary evaporators.			
Proper use and upkeep of inert atmosphere dryboxes.			
Proper use, handling, transportation, disposal, and the hazards of hydrofluoric acid.			
Proper use, handling, transportation, disposal, and the hazards of hydrofluoric acid.			
Proper use, handling, transportation, disposal, and quenching of highly pyrophoric metals (for metals with comparable handling procedures to Na)			

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Equipment/ Procedure	Trainee Initials/ Date	Supervised by/ date	PI Initials/ date
Proper use, handling, transportation, disposal, and quenching of solutions of pyrophoric liquids or solutions (for pyrophoric liquids with comparable handling procedures to Grignard reagents, aryl lithium, alkyl lithiums, trialkyl aluminum reagents, dialkyl zinc reagents, and aluminum hydrides).			
Proper use, handling, transportation, disposal, and quenching pyrophoric powders (for pyrophoric powders with comparable handling procedures to lithium aluminum hydride, calcium hydride, sodium hydride).			
Proper use, handling, transportation, disposal, and quenching of alkyl or aryl tin hydrides.			
Proper use, handling, transportation, disposal, and quenching of cyanide and cyanide-based reagents.			
Proper use, handling, transportation, disposal, and quenching of azides and azide-based reagents.			
Proper use, handling, transportation, disposal, and quenching of hydrofluoric acid and fluoride-based reagents.			
Proper use, handling, transportation, disposal, and quenching of highly toxic reagents (health hazard class of 4).			
Proper procedure for performing graving and metal-catalyzed hydrogenations including knowing how to properly dispose of the residual metal catalyst.			
Proper use, handling, transportation, disposal, and quenching of flammable solid metals (such as Na)			

