








Safe Work Procedure

Process/Equipment: Buchi Flash Chromatography	Location : 18.G19, JJRPL	
Procedure Developed by : Dr Alison Ung	Approved by : Professor Stephen Pyne	Date : Oct 2007
Referenced UOW Guidelines, legislation, codes of practice, Australian Standards etc:	OHS152.2 Guidelines for the development of safe work procedures. OHS114.2 Working with hazardous substances. OHS048.2 Laboratory safety guidelines. WorkCover Code of Practice for the Control of Workplace Hazardous Substances.	
Personal Protective Equipment Required		
    		
gloves disposable mask safety glasses covered shoes lab coat		

Step No.	Activity	Hazards Identified	Risk Score	Controls
1	Prepare solvent for the mobile phase	Spillage of solvent Skin contact with solvent Inhalation of vapour	Low to medium	Ensure there is an adequate, clear preparation area. Clean up all spills immediately Make up the volume of mobile phase needed for the run. Wear correct PPE. Nitrile gloves must be worn Transfer and filter solvents in fume hood
2	a. Pack a correct column suitable for the quantity of material to be separated b. Pack a correct cartridge suitable for the quantity of material to be separated	Spillage and spreading of silica Inhalation of silica dust Skin contact with silica	Medium	Column packing must be carried out in a fume hood, using a Buchi Dry Filling Set. A P1 disposable mask must be worn when handling dry silica as well as standard laboratory PPE. Use a Buchi cartridge packer Refer to Buchi cartridge SWP A P1 disposable mask must be worn when handling dry silica as well as standard laboratory PPE.

Step No.	Activity	Hazards Identified	Risk Score	Controls
3	Set up column Connecting column adapters and tubing lines	Potential solvent leakage from column and tubing lines	low	Ensure adapters, ferrules are well fitted and tighten by hand and check for leaks
4	Preparing sample Loading sample using an air-tight syringe	Exposure of most organic compounds and solvents is potentially harmful Pressure build-up in the air-tight syringe resulting in leaks or damage to equipment	medium	Correct PPE is worn, safety goggles must be worn Prepare the sample in the fume hood Load the sample with solvent extraction hood down
5	Set up run Set up the program for the Pump module and fraction collector	Inappropriate program resulting in damage to equipment or leakage	low	Ensuring the correct program is set correctly, for the pump module, collection mode and volume size. UV lamp is turned on.
6	Data collection and obtaining Chromatographic trace	Loss of data	low	Ensure the program is properly set and in operation
7	Collecting fraction	Exposure to potentially harmful organic compound vapours Fire risks from flammable solvents	medium medium	Ensure the solvent extraction hood is in full operation and positioned over the fraction collector. Once desired fractions are collected, ensure appropriately capped
8.	Disposal of silica and unwanted fractions	Exposure to vapours and silica dust	medium	The used silica must be properly disposed of into the silica waste container. The unwanted fractions must be disposed of into the appropriate organic solvent waste container.

For further information please consult Buchi operating manual.