

NATIONAL UNIVERSITY OF SINGAPORE

Doc No: CIBARAEq017

Name of Department Physics Location of Lab S7-01-09
 Name of Laboratory CIBA Name of PI Prof Frank Watt
 Name of Researcher/LO Dr. Chen Ce-Belle Name of Activity/Experiment Critical Point Dryer

No	Description/Details of Steps in Activity	Hazards	Possible Accident / Ill Health & Persons-at-Risk	Existing Risk Control (Mitigation)	Severity	Likelihood (Probability)	Risk Level	Additional Risk Control	Person Responsible	By (Date)
1	Fill chamber with intermediary agent and load samples into chamber	Intermediary agent, usually 100% Ethanol or acetone is flammable	Fire	No open flames or heat source in vicinity	1	1	1	NA		
2	Cap chamber, turn on machine and wait until desired cooling temperature is achieved	None	NA	NA			0	NA		
3	Turn on gas tank slightly	None	NA	NA			0	NA		
4	Fill chamber with liquid CO2 by pressing "Medium IN" button until full, then stop filling process.	Excessive pressure	Explosion	Do not exceed 60 bar pressure when filling and allow excess gas or liquid to vent.	2	1	2	NA		
5	Drain chamber to desired level by pressing "Medium OUT" button	None	NA	NA			0	NA		
6	Repeat steps 4 and 5 as necessary	As above	As above	As above			0	NA		
7	Turn off cooling and turn on heating. Turn off CO2 tank.	Excessive pressure	Explosion	Do not exceed 100 bar pressure upon heating. Allow excess pressure to vent by pressing "Gas out" button if this occurs	2	1	2	NA		
8	Release CO2 gas slowly by pressing "Gas out" button and opening the metering valve slightly	None	NA	NA			0	NA		
9	Open cap and remove dried samples.	None	NA	NA			0	NA		
10	Turn off machine.	None	NA	NA			0	NA		

Conducted By Dr Chen Ce-Belle

Approved By

Name Prof Frank Watt

Signature _____

Approval date 31/10/2011

Next Revision date 31/10/2014
(Maximum 3 years)