

NATIONAL UNIVERSITY OF SINGAPORE

Activity-Based Risk Assessment Form			
Name of Department	Science / Physics	Location of Lab	Block S7, 11, 12, 13 & 16
Name of Laboratory	Department	Name of PI	
Name of Researcher/LO	Safety Committee	Name of Activity/Experiment	Changing of Gas Cylinders

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	Extracting cylinder from the main gas cylinder yard at S7 Level 1.	Gas cylinder is unstable due to its long and thin shape.	Falling over and injuring the person moving it.	Use two persons to ensure that the gas cylinder does not topple over.	1	1	1			
2	Ensure that the gas cylinder is capped.	Uncapped cylinder will behave like a missile if the nozzle is damaged in a fall.	People in the line of the missile-like gas cylinder could be severely injured due to the cylinder behaving like a projectile.	Work in twos so that they are able to secure the gas cylinder chain properly.	1	1	1			
3	Loading gas cylinder onto gas cylinder trolley.	Gas cylinder is extremely heavy.	Mover may lose grip of the cylinder causing cylinder to fall over.	Work in twos so that they are able to secure the gas cylinder chain properly.	1	1	1			
4	Unloading gas cylinder into the laboratory's gas yard.	Gas cylinder is unstable due to its long and thin shape. Gas cylinder is extremely heavy.	Falling over and injuring the person moving it. Mover may lose grip of the cylinder causing cylinder to fall over.	Work in twos so that they are able to secure the gas cylinder chain properly.	1	1	1			
5	Remove empty gas cylinder and replace it with the new gas cylinder.	Gas cylinder is unstable due to its long and thin shape. Gas cylinder is extremely heavy.	Falling over and injuring the person moving it. Mover may lose grip of the cylinder causing cylinder to fall over.	Work in twos so that they are able to secure the gas cylinder properly.	1	1	1			
6	Fix the regulator properly. Ensure that the right regulator is used.	Wrong regulator could damage the threads of the nozzle causing leakages.	Gas leak may cause health problems or fatalities if gas is an asphyxiant.	Ensure that the right regulator is used. Read SDS of gas within the cylinder.	1	1	1			
7	Do a leak test by either using soap solution or shutting all valves and determine whether the pressure of the gas within the tube drops due to leakages.	Gas leakage.	Gas leakage of toxic gas could cause fatality. Leakage of inert gas could cause asphyxiation.	Gas detectors installed.	1	1	1			
8							0			
9							0			
10							0			

Conducted By Samuel Wu

Approved By

Name A/P Johan RC Van Der Maarel

Signature _____

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Next Revision date 19-Oct-22
(Maximum 3 years)