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Introduction to Gas Cylinder– Practical training form

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Location: Building 37		

Checklist for Gas Cylinder Practical Training

Description of task	Checkbox
Things to do before attending the practical training	
I, the trainee	
• If I am having a musculoskeletal issue or pain, I would not taking the practical gas cylinder training and wait till I no longer have any more issue/pain.	
• Will bring my own lab coats and safety glasses to the training session.	
• has completed the on-line gas cylinder training in myDevelopment and uploaded the completed training record in Department safety moodle, link below https://learning.monash.edu/course/view.php?id=14032&section=1	
• Has registered for the practical training session in in Department safety moodle	
Ordering gas cylinders from Coupa	
Ensure that the required gas cylinder has been ordered through Coupa (accessed via my.monash and clicking on the Coupa Purchasing Portal link under Expenses & purchasing).	
Once the cylinder is ready for collection, talk to one of the representatives over at Engineering Store - G02 in Building 37 and ask for access to the required gas cylinder.	
They will then bring you to the gas cylinder holding facility and will move the required cylinder from one of the cells 'into the open area.	
Transporting gas cylinder from cylinder holding facility	
Ensure that a gas cylinder trolley is available for use and that the correct PPE is used. Do not wear latex or nitrile gloves while handling cylinders.	
Check that the cylinder has no dents, that the gas cylinder's heat tag is not deformed (see attached photo) and that the label is correct and free from damage.	
Position the trolley so that the base is roughly 1 foot away from the gas cylinder and support it by placing the tip your foot on the edge of the base to support it.	
Holding the neck of the cylinder, tilt it approximately 15°-25 from the y-axis and then rotate it slowly with the other hand ¼ of the way down from the top of the cylinder. Use this hand to guide the movement of the cylinder. Do not support the cylinder by the valve.	
Carefully move the cylinder onto the base of the trolley, while keeping clear of the foot that is used to support the trolley.	
Move the cylinder so that it stands flush against the back of the trolley; take note of the pinch point hazard and keep your hands clear of it.	
Loop the safety strap around the cylinder and secure it on the hook at the side; tighten the strap so that there is no slack on the strap. (see attached photos).	

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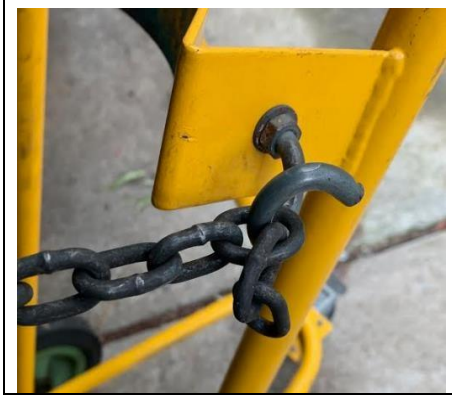
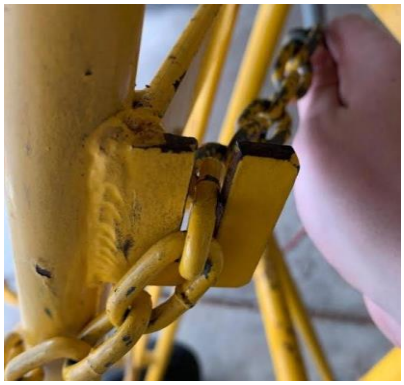
When transporting cylinders to upper levels, use the goods lift. Ask another person to wait at each floor and the receiving floor. Do not travel in the lift with the cylinder.	
Lower the trolley, move it to the required destination, remove the cylinder from the trolley and secure it to a gas cylinder bracket or support. Do not use clamps to secure the cylinder to a bench.	
IF YOU ARE NOT CONFIDENT TO MOVE THE GAS CYLINDER ASK THE SAFETY OFFICER, A TECHNICAL OFFICER OR AN EXPERIENCED PERSON IN YOUR GROUP TO HELP YOU OUT.	

Connecting a regulator to the gas cylinder and disconnecting	
If the cylinder contains a flammable or Oxidizing gas, ensure that a flashback arrestor is installed right after the regulator so that flames do not travel back into the bottle.	
Obtain the correct regulator for the gas cylinder.	
Ensure that the fittings are made of the same material e.g. brass on brass or steel on steel.	
Insert the regulator stem into the outlet of the gas cylinder and rotate it (anti-clockwise flammable and toxic gasses, clockwise for all others). Tighten the fitting using a shifter.	
Ensure that regulator is closed. This is done by turning the valve anti-clockwise until it feels loose.	
Turn on the gas cylinder a ½ turn. This ensures that the cylinder can be turned off quickly in case of emergency. See detailed instructions on the following pages for cylinders that require a hexagonal key.	
Increase the pressure using the regulator valve to the desired pressure in the line.	
Check for leaks using Snoop solution. Keep Snoop bottle upright so that liquid can enter the tube when it is squeezed. Formation of bubbles indicate the presence of a leak. If a leak is found, turn off the main cylinder valve and tighten or change fittings if necessary.	
To disconnect the regulator, close the main valve first. Release gas pressure until both gauges have returned to zero. Then the regulator can be removed.	

Removing of the gas cylinder valve caps	
Full Gas cylinders is supplied with cap/plug. The valve cap is designed to protect gas cylinder valve threads when they are not used. They provide an airtight seal to maintain the integrity of the gas in the cylinder. It protects from the entry of moisture, dirt, dust or other contaminants. It is fitted with a vent flap to allow the safe release of gas following the accidental opening of the valve. Please note that it is important to dispose of the cap in the bin before use and do not put the cap back on after removed to differentiate full from empty cylinders.	

Gas cylinder strap/chain connection





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Instructions for cylinders that require a hexagonal key to open

Gas cylinder from BOC: main valve on the side of the gas bottle	
Gas cylinder from BOC: main valve on the top of the gas bottle	
Key to open the main valve	

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Key position to open the main valve on the side	
Key position to open the main valve on the top of the gas cylinder	
Key is secure on the gas cylinder. The key should be available to use any time in case of emergency shutdown	

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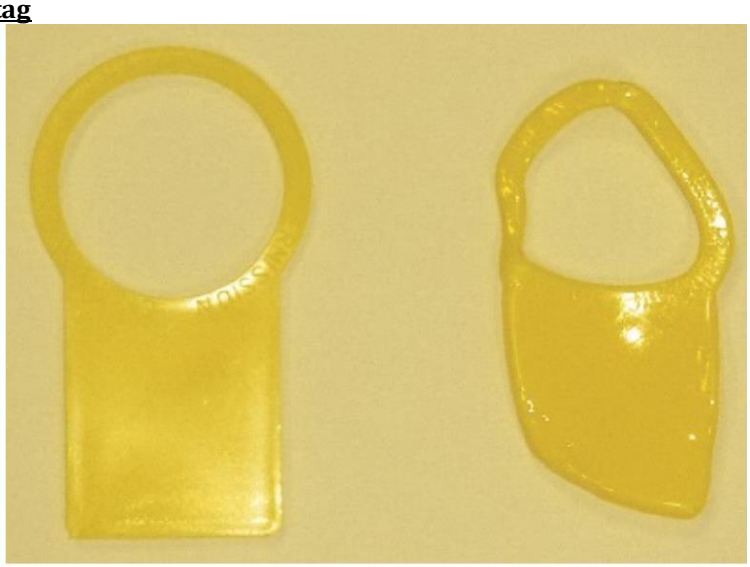
Colors of valve caps

Heat indicator test and tag



Before After

Heat indicator test date tags (view from tag underside – without markings)

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Staff/Student name (in full)_____ Staff / Student (Please circle as appropriate)

Staff/Student number _____ Safety Officer name_____

Faculty/Division/ Department _____ Date _____

Checklist for Trainers

Before the training session

- Read and understand the checklist and RA# 22936 the practical training procedure during the COVID 19 pandemic.
- Having a spray bottle of 80% v/v Ethanol for sanitizing gas trolleys, gas cylinders and other shared equipment
- Get the training equipment ready

During the training

- Cover all the items in the list below

Practical requirement for Gas Cylinders	
Requirement: Roll a G sized gas cylinder 5m and put cylinder in a harness affixed to a wall/bench.	
Task completed (please circle):	YES / NO / RESTRICTED

Practical requirement 2– Gas Cylinders	
Requirement: Successfully remove and install a gas regulator.	
Task completed (please circle):	YES / NO

Practical requirement 3 – Gas Cylinders	
Requirement: Roll a G sized gas cylinder onto a trolley and then move the trolley.	
Task completed (please circle):	YES / NO / RESTRICTED

Practical requirement 4 – Gas Cylinders	
Requirement: Identify and explain the local procedures for emergency response to a gas leak.	
Task completed (please circle):	YES / NO

Trainer Name (printed) _____

Trainer Signature: _____ Date:_____

After the training, the Trainer

- Sign the list and mark if the trainee is competent steps in the list
- Put the training equipment away

Safety Officer Name (printed) _____

Safety Officer Signature: _____ Date:_____