THE UNIVERSITY OF ADELAIDE AUSTRALIA

SAFE OPERATING PROCEDURE:

GAS CYLINDERS

LOCATION DETAILS	
School/Branch: School of Molecular & Biomedical Science	
SAFE OPERATING PROCEDURE DETAILS	
Storing, handling, ordering, returning and using gas cylinders.	Date Prepared: 14/05/2008 Reviewed: 12/08/2010
PREPARED BY: Name, position, & Signature (insert names of supervisor, HSO, subject matter expert)	
Tony Richardson – School Infrastructure Manager Kate Dixon – Health & Safety Officer	Signature: Tony Richardson Kate Dixon

RISK ASSESSMENT		
Has a risk assessment been completed and all other environmental considerations been made? YES	See risk assessment dated: 29/07/2010	Risk Rating: ~~Low~~ Medium ~~High~~ ~~Very High~~

RISKS IDENTIFIED

- A flammable gas leak may cause an explosion or major fire
- Personnel may be exposed to asphyxiants should a leak occur.
- Exposure to toxic gases
- Large gas cylinders are heavy and incorrect handling may cause an injury

SAFETY PRECAUTIONS

The following control measures MUST be adhered to:

- Full and empty cylinders are not to be stored in laboratories.
- Full and empty cylinders are stored in the dedicated storage shed.
- Cylinders must be secured appropriately.

SAFE OPERATING PROCEDURE

STORAGE OF CYLINDERS

Full and empty cylinders are not stored in labs, only full, “in use” cylinders are held in the lab and only as many of these as a risk assessment shows to be safe. “In use” is defined as ‘being connected to equipment or the cylinder has a regulator mounted’.
Cylinders are delivered to the MBS cylinder cage immediately West of the MLS loading bay.

Instructions for Gas Cylinder Order/Delivery/Storage/Return system:

- All cylinders should be assumed full, regardless of any report as to their content.
- Cylinders MUST always be secured.
- Keep all cylinders away from heat sources.
- Do not store cylinders near combustible materials or flammable liquids.

- Keep flammable (Acetylene, Hydrogen & LPG) gases away from any source of ignition (NB: any electrical switch is an ignition source).
- Keep cylinders in well drained areas, out of water pools.
- Cylinder storage areas should be kept clean.
- Cylinder storage areas should be well ventilated.
- Avoid below ground storage areas, where this is impracticable, carefully assess the risk.
- Storage areas should be level and have good access for trolleys.
- Storage areas should secure against unauthorised entry.
- Different types of gas must be stored separately in accordance with regulation (refer AS4332)
- Stores must have clear signage in accordance with regulation.
- Full and Empty cylinders should be stored separately if space permits.
- Toxic and corrosive gases must be stored upright on a level floor.
- Cylinders should not be stored in heavy traffic areas.
- Cylinders should not be stored for a long time, rotate stock.
- Never obscure cylinder labels.
- Do not store a cylinder below 0C, unless a risk assessment for this gas advises this is safe.
- Check for leaks and faults.

HANDLING CYLINDERS

When handling cylinders, use the following precautions:

- Cylinders must always be secured to the trolley when being transported and to the wall or bench when being used.
- All cylinders we use are quite heavy and from E size upwards the cylinder's weight increases again. You must use the correct trolley to transport them and minimise the distance between the trolley and the place you are going to secure them.
- Cylinders must be handled carefully and never knocked down or allowed to fall.
- Cylinder valves must always be closed and all equipment detached when the cylinder is moved however short the distance.
- Cylinders must never be rolled along the ground.
- Never open the cylinder valve unless the cylinder is connected to a regulator or to equipment.

USING THE MLS CYLINDER CAGE

The cage is situated immediately West of the MLS loading bay.

REFERENCE MATERIAL

- Australian Standard 4332 – the storage and handling of gases in cylinders
- Risk Assessment – Gas Cylinders RMSS #786

ADMINISTRATION

Note: This Safe Operating Procedure must be reviewed :
a) after any accident, incident or near miss;
b) when training new staff;
c) if adopted by new work group;
d) if equipment, substances or processes change; or

e) within 5 years of date of issue.