



Standard Operating Procedure: Use of Gas Cylinders

Document History

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1. Background

- This is an SOP for use in Sheffield biorepository and describes the safe use of gas cylinders.
- The use of compressed gas cylinders is potentially dangerous if the user has not received the appropriate training or is not wearing the correct protective equipment. All users should therefore attend the current University use of compressed gases safety courses.

2. Quality Assurance/ Control

- All gas regulators should be leak tested with an approved leak testing agent e.g. 1% TEEPOL before every use and when a new cylinder is fitted to a regulator. Soap and other oil based products are NOT suitable for leak testing compressed gas cylinders.

3. Changing an empty gas cylinder

- Always use impact level F eye protection when using compressed gases.
- If transportation of gas cylinders is necessary always use a three or four wheel cylinder trolley for moving cylinders around and toe protection to prevent injury to handler.
- Make sure the screw threads on the cylinder and regulator are clean, undamaged and free of debris before fitting the regulator.
- NEVER use PTFE or oil on cylinders or regulators.
- DO NOT use adjustable spanners on gas regulators as they use oil and grease for lubrication.
- Check that there are no cracks or dents in the regulator bull nose and that it is in good condition.
- Leak test the joints on your pressure system and regulator each time a new cylinder is fitted. NEVER leak test flammable gases with soap solutions or oil based products.
- Ensure all cylinders are secured to the wall, bench or a stand.
- Never used damaged cylinders or regulators. Return damaged cylinders to suppliers and see the biorepository manager about damaged regulators.
- Do not use excessive force to tighten a leaking regulator.
- Cylinders containing asphyxiates should only be used in rooms fitted with oxygen depletion meters.
- Record change of cylinder on the freezer record

4. USE OF GAS CYLINDERS

- Always use impact level F eye protection when using compressed gases.
- Always leak test your pressure system and regulator every time it is used with an approved oil-free leak test product e.g. 1% TEEPOL .

- Open cylinders slowly to prevent damage to the regulator.
- Turn off regulators which are not in use.
- Do not remove keys or spanners from cylinders which are in use. If cylinders need to be turned off in an emergency the user should not have to go looking for the key.
- Empty cylinders should be labelled as such and returned to the supplier.

5. IN THE EVENT OF AN EMERGENCY

- If you discover a fire in a room where there are compressed gas cylinders shut all doors and sound the fire alarm. Phone 2222 and tell the operator the nature and location of the fire and state that there are gas cylinders in the location of the fire. If you know the contents of the gas cylinders pass this information on too.
- If there is a major leak from a gas cylinder: shut off the supply and attend to the leak. If the gas involved is an asphyxiant evacuate the area and follow incident reporting procedure.
- If a cylinder is dropped or topples during transportation return to the supplier immediately for inspection with an explanation of the incident.

8. Associated Documents

	Document	Document Reference
1	SOP: Incident reporting	BIO:FORM:05
2	Risk assessment Gas cylinders	BIO:RA:COMPRESSED GAS
3	School H&S Manual	BIO:POLICY:06
4	Freezer Record	BIO:FORM:02
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