

Document I	mber: SASoM/EQUIP/006.v2
Title:	Jse and Transport of Gas Cylinders for the Don Whitley H35 lypoxystation
Version:	2
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SOP History		
Number	Date	Reason for Change
v1	01/01/2013	Original
V2	01/01/2018	Update

#### 1.0 Purpose –

The purpose of this SOP is to outline the principles of moving and attaching the gas cylinders to the Don Whitley H35 Hypoxystation in Laboratory 248 at the St Andrews School of Medicine (SASoM).

#### 2.0 Scope -

This SOP applies to the moving and attaching of the gas cylinders to the Don Whitley H35 Hypoxystation within the SASoM.

#### 3.0 Responsibilities -

It is the responsibility of all individuals moving the gas cylinders for the Don Whitley H35 Hypoxystation between the laboratory and the storage cage at the SASoM to comply with this SOP.

## 4.0 Procedure –

#### Ordering Cylinders

Cylinders are supplied to us by BOC and are delivered to the Medical School's main gas cage. It is our own responsibility to transport the full and empty cylinders between this cage and laboratory 248.



If any cylinder has a problem, e.g. higher pressure than expected or damage to the valve, return the cylinder to BOC.

See appendix 1 for list of cylinders used in SASoM.

### Moving Cylinders between the cage and SASoM

All moving of cylinders must be done with two personnel in attendance.

Before moving a full cylinder, check that the outlet valve is fully closed and the outlet valve protection cap is properly secured in place. The valve cap must always be in place while moving or transporting cylinders or when they are in storage.

Disconnect the cylinder from the restraining strap and "churn it" (i.e. tilting the cylinder slightly from the vertical and rotating it) towards the gas cylinder trolley. Secure the cylinder in place with the chain provided and transport to the laboratory.

After the cylinder has been moved to the area where it will be situated, secure the cylinder individually in place using the chain provided.

Attaching the regulator to a full cylinder Remove the disposable seal and valve outlet cap.

Check the cylinder valve outlet and regulator for the condition of threads and sealing surfaces and for the absence of oil, grease, sealing tapes or other contamination.

**NEVER** lubricate any part of a regulator or cylinder valve.

**NEVER** use tape of any description in order to get a better seal on any part of a regulator or cylinder valve.

Remove any dust or moisture with a lint free cloth.

Attach the appropriate regulator to the cylinder.

Tighten the regulator using the correct spanner and without applying excessive force. Check that the pressure adjusting screw on the regulator is wound fully out (i.e. anticlockwise) to ensure that the regulator is CLOSED/OFF.

#### Opening and Closing Valves

Crack the cylinder valve open as gently as possible and open to approximately 1 full turn counter-clockwise. This allows equipment to gradually adjust to full pressure. Stop turning as soon as there is any resistance. Turning the valve handle or stem too far in the open position can jam the stem causing damage and leaks and preventing later closure. Likewise, over tightening when closing a valve can damage or permanently distort the seat and result in leakage.



Check for leaks using an approved leak detection solution. If a leak is detected, isolate the cylinder and de-pressurise the equipment before investigating the problem. Do not attempt to tighten pressurised equipment

Assuming that there are no leaks, the system may be pressurised by gradually turning the pressure adjusting screw on the regulator in a clockwise direction. Close the regulator valve on the cylinder turning it anticlockwise.

### Turning off

Close the cylinder valve by turning it clockwise and the regulator valve by turning anticlockwise. Check that the pressure gauges read zero and then unscrew and remove the regulator assembly from the top of the cylinder.

## 5.0 Personal protection –

Howie coat and stout shoes must be worn at all times.

### 6.0 General maintenance -

Check the cylinder valve outlet and regulator before use each time.

## 7.0 Training –

All users have to be trained before moving or handling cylinders by a designated person.

### 8.0 Related documents -

- 8.1 Risk assessments RA/GEN/004, RA/MH/008
- 8.2 Appendix 1
- 8.3 SOP SASoM/EQUIP/009 Use and Maintenance of the Don Whitley Scientific H35 Hypoxystation

### SOP SASoM/EQUIP/010

Oxygen Calibration of the Don Whitley H35 Hypoxystation

8.4



# 9.0 Approval and sign off -

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# Appendix 1

Gas cylinders held in the SASoM:

Gas	Size	Withdraw	Hazard	
Nitrogen (Oxygen Free)	W		Nonflammable,	Non-
Carbon Dioxide	К	Vapour	corrosive.	
Air	Ν			