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Disposable gas cylinders – a lightweight and compact alternative to rented cylinders

Gases are used in science courses from S1 to S6. They can be generated using chemicals or bought in cylinders. Traditional cylinders from suppliers incur charges such as annual rental and delivery as well as the charge for the gas itself. Each cylinder also requires a regulator which is specific to the gas. These regulators require regular inspection and maintenance. For more information on all aspects of the Hazards, Handling, Testing, Storage and Disposal of gas cylinders see your *SafetyNet* disc or online at :-

http://www.sserc.org.uk/members/SafetyNet/HazChem/NewHaz15/ETOL/gas_cylinders.HTM

A range of gases (hydrogen, carbon dioxide, oxygen & nitrogen) in disposable, compact, non-refillable, aluminium cylinders is now produced by Cryoservice and available from Scientific and Chemical (Fig. 1). These gases are available in cylinders from 5 l to 110 l capacity. Once empty, these aluminium cylinders can be punctured with either a recycling tool or a hacksaw before disposal in an aluminium recycling bin.

A plastic carrying case is available to store the containers in. Whether this is



Figure 1 - Disposable gas cylinders (20 l)

used or not, the cylinders should still be stored in a cool, well ventilated and secure area.

Suppliers

Scientific and Chemical Supplies
 Unit 13, Airways Industrial Estate
 Pitmedden Road, Dyce
 Aberdeen
 AB21 0DT
 Tel: 01224 774 667
 Fax: 01224 774 668

Scientific and Chemical Supplies
 39 Back Sneddon Street
 Paisley
 PA3 2DE
 Tel: 0141 887 3531
 Fax: 0141 889 8706



Figure 2 - Reverse side of disposable gas cylinders (20 l) with mini flow valve

Item	Cost	Product code
Gas cylinder – 20 l (Fig. 1 - from left - oxygen, hydrogen & carbon dioxide)	£35.00 (irrespective of type of gas)	Hydrogen: \$020-14-11000 Oxygen: \$020-22-10000 Carbon dioxide: \$020-07010000 Nitrogen: \$020-19-01000
Mini flow valve – fits 5/12/20 l cylinders	£35.00	\$FCVTO/F1
Regulator (optional)	Not available	-
Gas cylinder – 110 L	£88.00 (irrespective of type of gas)	Hydrogen: \$110-14-11000 Oxygen: \$110-22-10000 Carbon dioxide: \$110-07010000 Nitrogen: \$110-19-01000
Mini flow valve – fits 34/58/110 L cylinders	£35.00	\$FCVTO/F2
Regulator (optional – replaces need for a mini flow valve)	£85.00	\$REG.XL-V
Recycling tool	£45.00	\$RECYC
Carry/Storage case for 2 cylinders and one regulator	£55.00	\$CCG
Carriage charge	£18.00	

Carriage charge is a single charge no matter how many cylinders are ordered. Unlike regulators for traditional cylinders the mini flow valves are not gas specific, thus saving money. Although these disposable gas cylinders may be an expensive way for a centre to supply gases for experiments, there are other factors which should be considered when deciding whether or not to use them. These will include for low rate of usage, a saving on annual rental charges, ease of transport, storage and handling (the 110 l cylinder is only 361 x 89 mm and 1.05 kg).

Table 1 - Costs for hydrogen, oxygen, carbon dioxide and nitrogen gases – 20 l & 110 l cylinders