Working Environment Safety Assessment

Compressed Gas Cylinders

For your own safety and/or safety of your workforce, and to improve the efficiency of your business practices, you should be aware of, and be up to date with, the key safety issues and good practices relevant to the safe use of gases within the workplace. To help you do this we've put together the following Safety Assessment information to help you work safely with gas cylinders.

The information contained in this document is to be used as a guide and cannot cover all potential hazards and risks within specific working environments. If you have answered 'No' to any of the statements then please address the situation and ensure that levels of risk are reduced within the workplace.

		Yes	No	Comments
1	Have risk assessments been completed on the use of gas cylinders in the workplace?			
2	Are standard operating procedures in place covering the assembly and safe use of gas cylinders and associated equipment in the workplace?			
3	Have all operators been trained in the appropriate standard operating procedures?			
4	Are the users of gas cylinders and equipment adequately trained with respect to gas properties and hazards?			
5	Are all locations where gas cylinders are used clearly identified with appropriate signage?			
6	Is the working environment clean, free from oils, greases and flammable materials?			
7	Are Safety Data Sheets available for all gases within the work area? If yes, are they readily available to all operators, and fully understood?			
8	Are all cylinders upright and secured?			
9	Are cylinders correctly labelled and colour coded?			
10	Are appropriately sized trolleys fitted with chains/straps provided to move cylinders in and out of the work area?			

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		Yes	No	Comments
11	Are spindle keys available for all top outlet cylinders within the work area?			
12	Are the correct tools on hand to fit regulators and other control equipment? (Not adjustable spanners)			
13	Is an appropriate leak testing solution available and used by operators each time prior to use?			
14	Are all staff equipped with appropriate PPE and trained in its use? (Eye protection, gloves and safety footwear)			
15	Are all staff trained in correctly assembling the gas system, opening the cylinder valves, setting the appropriate pressure or flow, leak testing the system and shutting the system down?			
16	Are the correct operating procedures (eg start-up and shut-down) followed by the operator(s)?			
17	Is adequate ventilation available in all work areas?			
18	Is fire fighting equipment available in the work area and are all personnel trained in its use?			
19	Are there clearly established emergency evacuation procedures, which are updated and practised on a regular basis?			
20	Are all staff able to identify pipeline isolation valves and do they know how to operate them in an emergency situation?			
21	Are all areas where gas cylinders are used or stored designated as no smoking and clearly marked as such?			

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		Yes	No	Comments
22	Is all gas control equipment kept in a clean, secure area?			
23	Is all damaged or defective equipment replaced immediately?			
Gas Regulators				
1	Are standard operating procedures in place covering the fitting and safe use of gas regulators and associated equipment in the workplace?			
2	Have all operators been trained in the appropriate standard operating procedures?			
3	Are gas regulators arrestors subject to an asset register system, identifying their age and replacement date?			
4	Are inspection records available for all regulators?			
5	Are all regulators in date (usually 5 years) and not overdue (the manufacturer's recommended) scheduled replacement?			
6	Is this information clear to the equipment operator(s)? Is the equipment labelled with the next inspection date?			
7	Are the regulators labelled correctly with: a. name of the gas b. maximum inlet pressure c. maximum outlet pressure d. BS EN number e. manufacturer/supplier's name or logo			

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		Yes	No	Comments
8	Are the correct regulators being used for the gases contained within the cylinders?			
9	Is the correct regulator type being used? (bottom entry for top outlet cylinders and side entry for cylinders fitted with handwheel valves)			
10	Are the regulators in good condition, with clean threads, free of contamination?			
11	Are the gauges in good condition, lenses attached with indicators reading zero?			
12	There is **no** evidence of jointing compounds or thread tape (PTFE) on any of the fittings?			
13	Are the regulators free from unauthorised repairs?			
14	Are the regulators free from heat and/or mechanical damage?			
15	Are the pressure adjusting screws captive on regulators?			
16	Are the correct tools on hand to fit regulators and other control equipment? (Not adjustable spanners)			
17	Are the pressure relief devices fitted and in good condition?			
Flashback Arrestors, Hoses, Torches				
1	Are standard operating procedures in place covering the assembly and safe use of oxy-fuel gas systems in the workplace?			

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		Yes	No	Comments
2	Have all operators been trained in the appropriate standard operating procedures?			
3	Are the correct flashback arrestors fitted to both the oxygen and fuel gas regulators?			
4	Are the flashback arrestors free from damage and/or contamination?			
5	Do either of the flashback arrestors show signs of carbon deposits in either the inlet or outlet connection?			
6	Are the flashback arrestors subject to an asset register system, identifying their age and replacement date?			
7	Are inspection records available for all flashback arrestors, hoses and torches?			
8	Are any flashback arrestors overdue (the manufacturer's recommended) scheduled replacement? Is the equipment labelled with the next inspection date?			
9	Is this information clear to the equipment operator(s)?			
10	Are the correct hoses being used? Red Acetylene Orange Propane Blue Oxygen			
11	Are the hoses free from deterioration, damage (heat or mechanical), significant contamination etc?			
12	Are the hoses fitted with the correct connections? (Not worm drive clips)			

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		Yes	No	Comments
13	Are the hoses the correct length and bore for the job being undertaken?			
14	Is a hose check valve fitted to each hose at the torch connection?			
15	There are **no** joints in the hose(s)? Any hoses which have been repaired or joined must be re-tested before use in line with the appropriate European Standard			
16	Are the hoses fully extended when the equipment is in use and not coiled or wrapped around the cylinders?			
17	Is the torch free from damage and in good condition?			
18	Are the correct operating procedures (e.g. start-up and shut-down) followed by the operator(s)?			
19	Is the correct size of nozzle being used for the job being undertaken? Are nozzle data charts available to operators to enable them to select the correct size of nozzle?			
20	Are the correct gas pressures being set for the nozzle size and thickness of plate being used?			
21	Are operators lighting oxy-fuel gas systems with the correct spark lighters?			
22	Are operators purging the oxy-fuel gas system prior to lighting the torch?			
23	Do operators understand the correct shut-down procedure to be undertaken in the event of a flashback?			

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		Yes	No	Comments
24	Are operators shutting systems down correctly at the end of the work period and safely de-pressurising the system?			
25	Is adequate ventilation available in all work areas?			
26	Is fire fighting equipment available in the work area and are all personnel trained in its use?			
27	Are there clearly established emergency evacuation procedures, which are updated and practised on a regular basis?			
28	Are all areas where oxy-fuel gas cylinders are used or stored designated as no smoking and clearly marked as such?			
Safe handling of gas cylinders				
1	Are all personnel aware of the hazards associated with the handling of gas cylinders?			
2	Are all personnel who handle or move gas cylinders properly trained in all relevant aspects of the Manual Handling Operations Regulations 1992?			
3	Have all operators been issued with (and wear) appropriate personal protective equipment?			
4	Are appropriate sized, designed and constructed cylinder trolleys available for staff use?			
5	Are cylinder trolleys regularly and adequately maintained?			

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6	If trolleys are not available, have all personnel been practically trained in the milk-churning of cylinders and is a record kept of this training?			
7	Have all cylinder handling operations been risk assessed with reference to: The task? The load? The working environment? The individual's capacity?			
8	On this basis, has the employer formulated and made suitable conclusions and recommendations?			
9	Are these handling assessments reviewed regularly?			
Safe storage of gas cylinders - External gas cylinder storage (preferred)				
1	Has a risk assessment been completed with regard to the gas cylinder store and surrounding area?			
2	Is the cylinder storage area well defined?			
3	Is the store located to reduce manual handling distances to a minimum?			
4	Is the storage area above ground level and in the open air?			
5	Is the storage area well ventilated with a good natural high and low flow through of air?			
6	Has the storage area some protection from the weather?			

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		Yes	No	Comments
7	Is the storage area free from other stored materials, especially flammable substances?			
8	Is the store located with due regard to the seepage of heavier then air gases into low lying areas such as basements, trenches, drains, ducts and pits?			
9	Is the storage area sufficiently remote from ventilation inlets, building doors or windows, boundaries or other stored combustible materials?			
10	Does the storage area have a well drained, even, non-combustible and non-porous floor laid to a fall?			
11	Is the store area floor free from standing water?			
12	Does the storage area have good vehicular access?			
13	Does the storage area have good pedestrian access for staff returning or collecting cylinders on trolleys?			
14	Does the store have adequate racking facilities for small cylinders?			
15	Does the store have proper means to keep large cylinders upright and individually secured?			
16	Is the store equipped with a means of escape?			
17	Is the storage area adequately lit?			

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		Yes	No	Comments
18	Does the storage area have protection from vehicle impact such as crash barriers?			
19	Is the store designated a NO SMOKING AREA?			
20	Are toxic gases kept in a ventilated, locked enclosure with access restricted to authorised-trained personnel?			
Internal gas cylinder storage				
1	Is the internal storage area constructed from fire resistant material?			
2	Does the internal storage area have at least one wall made from open mesh?			
3	Is the internal storage area equipped with forced ventilation that will take leaked gases outside to a safe place?			
4	Is the internal storage area free from other stored materials, especially flammable substances?			
5	Is the internal storage area sufficiently remote from drains, basement entrances, ventilation inlets, building doors, windows, boundaries or other stored combustible materials?			
6	Does the internal storage area have good pedestrian access for staff returning or collecting cylinders on trolleys?			
7	Does the internal store have adequate racking facilities for small cylinders?			

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8	Does the internal store have proper means to keep large cylinders upright and individually secured?			
9	Is the internal store equipped with a means of escape?			
10	Is the internal storage area adequately lit?			
11	Are the number of cylinders in the internal storage area kept to an absolute minimum?			
12	Are very toxic or pyrophoric gases stored outside the building?			
13	Is the store designated a NO SMOKING AREA?			
External and internal gas cylinder storage				
1	Are all gas cylinders checked for correct labelling, damage and so forth at the time of delivery?			
2	Is the storage area kept secure?			
3	Is the storage area correctly identified with appropriate signage?			
4	Is stock checked for pilferage?			
5	Is the store managed so that nominally empty cylinders are returned as soon as practicable to the supplier?			
6	Are the number of cylinders within the store kept to an absolute minimum?			

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7	Does the storage area have a means to segregate cylinders into the recommended categories; by status and type?			
8	Are all LPG cylinders stored 3 metres away from any other type of gas cylinder?			
9	Is the storage area kept clean and free from combustible materials?			
10	Is the storage area equipped with the appropriate number and types of fire extinguishers, in a readily available position and close to exits?			
11	Does the storage area have a means of protecting carbon dioxide and LPG cylinders from direct sunlight?			
12	Is the storage area at least 3 metres away from any ignition source?			

Emergency procedures, training and provision of Information

Are all stores personnel fully trained with particular regard to:

1	Potential hazards of the gases within the store?			
2	How to move cylinders safely?			
3	The emergency procedures associated with the gases kept in the store? Are you in a position to give the emergency services the following information in case of an incident: a. The types of gases involved? b. Cylinder quantities and types? c. Where they are located?			

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4	Is there an emergency plan posted at the point of storage along with appropriate emergency telephone numbers? (eg. gas supplier, location of keys, stores contents inventory, etc.) Your emergency plan should contain the following: • How to raise the alarm • Evacuation route and procedures • Safe assembly points • Actions to deal with leakage • Actions with toxic cylinders and use of breathing apparatus • Fire drills • Selection of a knowledgeable person to assist the emergency services • Notifying the supplier when cylinders are involved in incidents This information would be required by the Fire & Rescue Service			
5	Is there a planned and recorded procedure for access to the store in the event of an emergency?			
6	Are all exits clearly marked?			
7	Are all stores personnel, where necessary fully trained in the use of emergency equipment?			
8	Are all items of emergency equipment adequately inspected, tested and maintained?			
9	Are relevant data sheets available to stores personnel?			

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