Air Liquide
creative oxygen

Do's and Don'ts with CO_2 Cylinders

Safety information for CO_2 cylinder users

1. Carbon dioxide is stored in cylinders as a liquid and an increase in temperature will cause an increase in pressure. Consequently the pressure in the cylinder is not a reliable indication of the contents. To protect cylinders against over-pressure, they are fitted with bursting discs. These discs rupture at 190 bar, with an initial loud bang, followed by a rushing noise as the cylinder empties itself.
2. The cylinder valve outlet thread is 0.860 inch major diameter 14 threads per inch, BS Whitworth form. Female connection should be in accordance with BS 341: Part 1 outlet connection No. 8.
3. A standard cylinder discharges gaseous CO_2. Cylinders with a white stripe running along their length are fitted with dip tubes to discharge liquid CO_2. In both cases, the valve should be uppermost when discharging CO_2.
4. A single large non-dip cylinder (22.6 or 34kg) can deliver up to 1.8kg/h (4lb/h). Higher flows will cause the cylinder to become very cold and collapse the pressure inside it. High flows can be safely obtained by manifolding a number of gas cylinders together or using dip cylinders together with a suitable vaporiser.
5. As CO_2 gas is heavier than air it will tend to sink to the lowest level when released to the atmosphere.
6. A safety data sheet is available from Air Liquide UK Limited and should be obtained before use of this product.

Emergency Contact:
Air Liquide UK Limited
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Safe Handling and Storage

Do use gloves when handling cylinders and valves.

Do handle cylinders with care.

Do store cylinders in a cool place with low level ventilation.

Do store cylinders safely and securely.

Do carry cylinders in open vehicles if possible.

Do check that cylinders are correctly labelled before taking into store.

Don't handle cylinders and valves with wet hands.

Don't drop cylinders, allow them to be struck violently or use them as work supports, etc.

Don't store cylinders in direct sunlight, near steam pipes or other sources of heat.

Don't keep cylinders in damp or corrosive atmosphere.

Don't carry cylinders in closed vehicles without adequate ventilation.

Don't use cylinders that have no label or are incorrectly labelled.

Usage

Do fit a pressure regulator to valve outlet (non-dip cylinders only).

Do use equipment designed for the duty.

Do use a vaporiser if gas is required from a dip cylinder.

Do secure cylinder vertically with valve at top before use.

Do point valve outlet away from you before opening valve.

Do open valve momentarily before connecting to circuit.

Do use the cylinder valve in the fully open position.

Do close cylinder valve and depressurise circuit before disconnecting cylinder.

Do use non-return valves in circuits where there is a possibility of liquids being returned to the cylinder.

Do clearly label faulty cylinders with fault and return to depot as soon as possible.

Do return empty cylinders as soon as possible.

Do use a valve outlet cap to protect the valve threads and prevent the outlet becoming contaminated.

Do ensure that cylinders have the correct commodity label before use.

Do follow the guidelines.

Don't connect a cylinder direct to low pressure plant.

Don't use equipment of doubtful origin or design.

Don't connect pressure regulators direct to dip cylinders.

Don't open valve fully until satisfied that all connections are properly made.

Don't use cylinder valve as a flow controller.

Don't seal leaks while equipment is under pressure.

Don't use a Stillson wrench on the valve handwheel or use excessive force when operating the cylinder valve.

Don't use cylinders with faulty valves.

Don't store full and empty cylinders together.

Don't attempt high flow rates from single gas cylinders.

Don't interfere with pressure regulator or relief valve settings.

Don't interfere with or make any substitution to the bursting disc.

Don't use cylinder that have no commodity label or are incorrectly labelled.

Don't take chances.

www.industry.airliquide.co.uk

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