

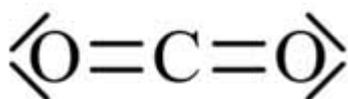
# PRODUCT INFORMATION

## NAME OF THE MEDICINE

MEDICAL CARBANOX (5% carbon dioxide + 95% Oxygen)

### Carbon Dioxide

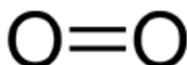
#### Chemical structure:



CAS No. : 124-38-9

### Oxygen

#### Chemical structure:



CAS No. 7782-44-7

## DESCRIPTION

Carbon Dioxide is a colourless, odourless gas with a molecular weight of 44.01 g/mol, a sublimation point of  $-78.5^{\circ}\text{C}$  (at 101.325 kPa), a density of  $1.872 \text{ kg/m}^3$  (at  $15^{\circ}\text{C}$  and 101.325 kPa) and a specific gravity of 1.53 (at  $15^{\circ}\text{C}$  and 101.325 kPa).

Carbon Dioxide occurs at approximately 350 ppm v/v in the atmosphere.

The effect of inhaling Carbon Dioxide, or of its accumulation in the body through breathing defects, varies with the tension achieved in the blood, the duration and condition of the exposure and the susceptibility of the individual concerned.

Oxygen is a colourless, odourless gas with a molecular weight of 32.0 g/mol, a boiling point of  $-183.1^{\circ}\text{C}$  (at 101.325 kPa) and a density of  $1.355 \text{ kg/m}^3$  (at  $15^{\circ}\text{C}$  and 101.325 kPa).

Oxygen is present in the atmosphere at 21% and is an absolute necessity for life.

**Medical Carbanox**, a 5% Carbon Dioxide / 95% Oxygen medical gas mixture, has a specific gravity of 1.13 (at  $15^{\circ}\text{C}$  and 101.325 kPa) and a density of  $1.38 \text{ kg/m}^3$  (at  $15^{\circ}\text{C}$  and 101.325 kPa).

Excipients: None.

## PHARMACOLOGY

### Pharmacokinetic properties:

The uptake of Oxygen by the blood in the lungs and discharge to the tissues is determined by the Oxygen dissociation curve. The characteristic sigmoid shape ensures that, at tensions between 40 and 15 mm Hg, the Oxygen carried in the blood from the lungs can be readily given up to the tissues.

The uptake from the lungs is rapid because blood flow through the capillaries, where exchange takes place, occurs in about 0.5 seconds. The uptake of Oxygen is favoured by the simultaneous loss of Carbon Dioxide which is then excreted in the expired air. Conversely the entry of Carbon Dioxide into the blood from the tissues facilitates Oxygen transfer to the cells.

## INDICATIONS

As a respiratory stimulant after apnoea or after chronic respiratory obstruction has been relieved.

In clinical situations where Carbon Dioxide is needed as an anaesthetic supplement. Use in clinical and physiological investigations.

## CONTRAINDICATIONS

The gas mixture is contraindicated in acidosis, chronic respiratory disease and patients with drug-induced respiratory depression.

## PRECAUTIONS

Oxygen supports combustion and smoking should be prohibited when this gas mixture of Carbon Dioxide 5% and Oxygen 95% is in use.

### Effects on fertility:

Not applicable.

### Use in pregnancy:

The gas mixture is not specifically contraindicated in pregnancy but its use is not recommended.

**Category C:** Drugs which, owing to their pharmacological effects, have caused or maybe suspected of causing, harmful effects on the human foetus or neonate without causing malformations. These effects maybe reversible. Accompanying texts should be consulted for further details.

### Use in lactation:

The gas mixture is unlikely to influence lactation.

### Paediatric use:

Not applicable.

### Use in the elderly

Not applicable.

### Carcinogenicity

Not applicable.

**Genotoxicity**

Not applicable.

**Interactions with other medicines:**

Carbon Dioxide 5% / Oxygen 95% interacts with anaesthetic agents when the Carbon Dioxide concentration is raised and gives rise to cardiac dysrhythmias. The onset of these symptoms varies with the type of anaesthetic. The mixture also interacts with adrenergic substances (e.g. adrenaline). Adrenergic substances should not be used at the same time as Carbon Dioxide 5% / Oxygen 95%.

Carbon Dioxide 5% / Oxygen 95%, by altering pH, influences uptake distribution and action of many drugs including neuromuscular blocking agents, and hypotensive agents. Care should be taken when administering drug substances at the same time as Carbon Dioxide 5% / Oxygen 95%.

**Effect on laboratory tests**

Not applicable.

**Effects on Ability to Drive and Use Machines:**

The inhalation of Carbon Dioxide 5% / Oxygen 95% is not compatible with driving vehicles or the operating of machinery.

**ADVERSE EFFECTS**

Use of the gas mixture may result in sweating, nausea and headache in a small number of patients.

**DOSAGE AND ADMINISTRATION****Use in adults, the elderly and children**

For respiratory use.

**OVERDOSAGE**

Not applicable.

**PRESENTATION AND STORAGE CONDITIONS**

**Medical Carbanox** is supplied in a gas cylinder with a PIN index valve, suitable for the filling pressure applied for the product.

The types of cylinders normally used are specified in the following table.

<b>Cylinder Size</b>	<b>Water Volume (litres)</b>	<b>Fill Pressure (bar)</b>	<b>Fill Volume (m<sup>3</sup>)</b>
C	2.8	190	0.57
D	9.5	190	1.9
E	23	176	4.3
G	50	190	10.0

**Notes:**

*Cylinders conform to AS 2030.1*

*Cylinder valves conform to AS 2473.1 and AS 2473.3*

*The colour code for **Medical Carbanox** is a white body with a green-grey & white triangle shoulder (plus 2 x "N") in accordance with AS4484*

**Instructions for Use / Handling**

Care is needed in the handling and use of **Medical Carbanox** gas cylinders. Refer to the respective safety data sheet (SDS) and the "caution" section on the product label.

**Preparation for use**

1. Cylinder valves should be opened momentarily prior to use to blow any foreign matter out of the outlet.
2. Ensure that the connecting face on the yoke, manifold or regulator is clean and the sealing washer or 'O' ring where fitted is in good condition.
3. Cylinder valves must be opened slowly.
4. Only the appropriate regulator should be used for the particular gas concerned.
5. Cylinder valves and any associated equipment must never be lubricated and must be kept free from oil and grease.

**Leaks**

1. Should leaks occur this will usually be evident by a hissing noise.
2. Leaks can be found by brushing the suspected area with an approved leak test solution.
3. There are no user serviceable parts associated with these valves, do not attempt to correct any problems with leakage from any part of the valve itself. Label any faulty containers appropriately and return them to Coregas for repair.
4. Sealing or jointing compounds must never be used to cure a leak.
5. Never use excessive force when connecting equipment to cylinders.

**Handling of Cylinders**

1. Cylinders should be handled with care and not knocked violently or allowed to fall.
2. Cylinders should only be moved with the appropriate size and type of trolley.
3. When in use cylinders should be firmly secured to a suitable cylinder support.
4. Cylinders containing liquefiable gas must always be used vertically with the valve uppermost.
5. Medical gases must only be used for medicinal purposes.
6. Smoking and naked lights must not be allowed within the vicinity of cylinders or pipeline outlets.

7. After use cylinder valves should be closed using moderate force only and the pressure in the regulator or tailpipe released.
8. When empty the cylinder valve must be closed.
9. Immediately return used cylinders to the used cylinder store for return to Coregas.

**STORAGE:**

Cylinders should be kept out of the reach of children.

**Medical Carbanox** enhances combustion.

The normal precautions required in the storage of medical gas cylinders as described below are applicable.

- Cylinders should be stored under cover, preferably inside, kept dry and clean and not subjected to extremes of heat or cold.
- Cylinders should not be stored near stocks of combustible materials or near sources of heat.
- Warning notices prohibiting smoking and naked lights must be posted clearly.
- Emergency services should be advised of the location of the cylinder store.
- Medical cylinders containing different gases should be segregated and identified within the store.
- Full and empty cylinders should be stored separately. Full cylinders should be used in strict rotation.
- Cylinders must not be repainted, have any markings obscured or labels removed.
- D size cylinders and larger should be stored vertically; C size cylinders can be stored horizontally.
- Precautions should be taken to protect cylinders from theft.

**NAME AND ADDRESS OF THE SPONSOR**

Coregas Pty Ltd  
66 Loftus Road  
Yennora NSW 2161  
Australia

**POISON SCHEDULE OF THE MEDICINE**

Unscheduled.

**DATE OF APPROVAL**

TGA approval: 21/10/1991.

Date of most recent amendment: 30/05/2013.

Date of first inclusion in the Australian Register of Therapeutic Goods: 21/10/1991.

AUST R: 27180.