

SAFETY DATA SHEET



DISPOSABLE GAS CYLINDERS CO2/100 & CO2/101

1. SUPPLIER

Sealey Quality Machinery,
Kempson Way,
Suffolk Business Park,
Bury St. Edmunds,
Suffolk IP32 7AR.
Telephone No: 01284 757500
Fax No: 01284 703534
E-mail: sales@sealey.co.uk

2. IDENTIFICATION

Identification of the substance.

IUPAC Name: Carbon Dioxide
Synonym: CO₂
CAS No: 124-38-9
EINECS No: 204-696-9
Concentration: ≥ 99.99%

Carbon Dioxide does not contain other products or impurities that could modify its classification.

Use of the substance/compound:

Description/Use Food additive (E290) to charge/refrigerate drinks with gas.
CO₂ enrichment of aquariums.
Technical gas for industrial use.

3. CLASSIFICATION/INFORMATION ON INGREDIENTS

Classification of the substance.

Classification under (EC) Regulations No: 1272/2008: GAS UNDER PRESSURE - PRESSURISED GAS.

Classification under Directive No: 67/548/CEE: PRODUCT NOT CLASSIFIED AS DANGEROUS.

Free from the recording obligation according to the enclosures IV and V of the (EC) regulation No. 1907/2006 (REACH)

Label elements:

GHS Danger Symbols:



Attention:

Warning

Danger information:

H280:

It contains gas under pressure; it can explode if it is heated up.

Suggestion - Conservation P410+P403:

Gas based containers must not be directly exposed to sunlight. Ensure proper ventilation (natural or forced).

Danger symbols under Directive No.67/578/CEE: None.

"R" Phrases:

None.

"S" Phrases:

None.

ADR symbols;



Label No.2.2: Carbon Dioxide is not a flammable or toxic gas.

Danger identification:

At high concentrations, it may cause suffocation.

4. FIRST AID MEASURES

Description of first aid measures.

Immediately seek medical advice.

Wearing breathing apparatus, move the patient from the exposed area to fresh air, and keep them warm.

If unconscious, loosen clothes and place them in the recovery position.

If the patient is not breathing, give artificial respiration.

If the patient is having breathing difficulties, give oxygen under low pressure.

In case of cardiac arrest, carry out a heart massage.

Important symptoms and effects, both acute and delayed.

Skin Contact: In case of lesions due to low temperature, please refer to the instructions below:

Immediately remove any contaminated clothes.

Do not rub the skin burn or break the blisters.

Immerse the burnt area in lukewarm water (40°C).

In case of burns to the fingers and/or hands, if it is possible, separate them with strips of gauze or clean clothing.

Eye Contact: Immediately wash for at least 15 minutes. Immediately seek medical advice.

Inhalation: In case of suffocation symptoms, move the affected person away from the area to a fresh, ventilated place. Immediately seek medical advice.
In high concentrations, it may cause asphyxiation. Symptoms may be loss of mobility and consciousness. Victims may not be aware of their own symptoms.
At low concentrations may cause narcotic effects, symptoms may include dizziness, headache, nausea and loss of co-ordination.
The use of masks with filters is ineffective.

5. FIRE-FIGHTING MEASURES

Extinguishing media:

All known extinguishing media can be used.

Special hazards arising from the substance or mixtures:

Fire exposure can cause an explosion or rupture the cylinder.

Special protection devices:

Use breathing apparatus in confined spaces.

Advice for fire fighting:

Cool the cylinder with water from a protected position.

Equipment: Wear complete equipment with eye shield helmet and neck protection, and pressure or demand breathing apparatus

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures.

Use breathing apparatus to enter the effected area. Evacuate the area and ensure proper ventilation. Wear protective equipment to avoid skin and eye contact and inhalation and to protect personal clothing. If the release is in an enclosed area with poor ventilation, suffocation is a possibility. Wear breathing apparatus. Immediately, contact Sealey Power Products.

Environmental precautions.

Prevent it from entering sewers, basements, excavations and inspection pits, where accumulations could be dangerous.

Methods and material for containment and clearing up.

No other procedures are necessary.

7. STORAGE AND HANDLING

Precautions for safe handling.

Avoid direct contact with the product.

Do not eat, drink or smoke in the working area.

For container handling, use proper personal protective equipment such as safety shoes and gloves.

Carefully handle the containers avoiding violent collisions between them or against other surfaces, as well as falls and other mechanical strains likely to damage their integrity/resistance.

Do not allow backfeed into the cylinder.

Do not completely empty the cylinder.

Suck back of water into the cylinder must be prevented.

If there is any doubt, please contact your supplier.

Conditions for safe storage, including any incompatibilities.

Gas-filled containers must not be directly exposed to sunlight, or be close to heat sources or in areas where the temperature can reach 50°C or more.

Ensure that there is proper ventilation (natural or forced) where carbon dioxide is stored and/or used

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Control parameters.

Carbon Dioxide: threshold values: TLV-TWA: 5000 ppm - [ACGIH 2003]
ILV (EU) 8h: 5000 ppm

Exposure controls.

Ensure proper ventilation:

Can form sub-oxygen atmospheres (O₂ less than 18%).
In closed spaces, check the percentage of oxygen in the air.
Under Oxygenated areas, use a breathing apparatus.

Assess the opportunity to check the concentration in air

Eyes and face protection:

Use safety glasses and face shield in accordance with EN 166.

Skin protection:

Use gloves according to EN 388.

Respiratory protection:

No other protection devices are necessary in normal conditions or in well ventilated working areas.

In case of release, please refer to section 7.

9. PHYSICAL & CHEMICAL PROPERTIES

Information on basic physical and chemical properties.

Molecular weight:	44g/mole
Melting point:	-78,5°C
Boiling point:	-56,6°C
Critical temperature:	31°C
Relative density, gas: (air=1)	1.52
Relative density, liquid (water=1)	1.03
20°C Vapour pressure	57.3 bar
Solubility in water (mg/l)	2000 (15°C; 1,013 bar)
Colour	Colourless
Odour	No odour warning properties
Auto-ignition temperature	Not applicable
Ignition limit (% vol. in air)	Not applicable
Solubility in other solvents	Not applicable
Partition coefficient:	n-octanol-water - not applicable

Other information:

Carbon Dioxide (CO₂) is about 1.5 times heavier than air and it tends to stratify down with the possibility to accumulate in confined areas, particularly at or below ground level. such as inspection pits, cellars etc. In still conditions or similar, CO₂ accumulations can persist for many hours.

10. STABILITY & REACTIVITY**Reactivity.**

The product is reactive with some substances, for example: ammonia or amines.

Chemical stability.

Stable under normal use and storage conditions.

Possibility of hazardous reactions.

If CO₂ is dissolved in water, it forms Carbonic Acid (H₂CO₃). This has a slightly acid reaction, and is corrosive to Carbon Steel and some non-ferrous materials.

Conditions to avoid: Avoid storage of the product in confined areas.

Incompatible materials: None

Hazardous decomposition products: None

11. TOXICOLOGICAL INFORMATION**Information on toxicological effects.**

There are no known toxicological effects from this product.

The substance can form an under Oxygenated atmosphere.

Health problems can occur if breathing air (for more than 8 hours) containing more than 5,000 ppm (0.5%) of CO₂. If the concentration increases to 15,000 ppm (1.5%), there will be problems after just 10 minutes. At a concentration of 20,000 ppm (2%), headaches and a loss of concentration will be experienced. At higher levels, around 100,000 ppm (10%), the level of CO₂ can cause asphyxiation and paralysis of the respiratory system, although the amount of oxygen in the air is still above 19%.

Breathing an even richer concentration of CO₂ can cause immediate loss of consciousness and death.

Symptoms of asphyxiation may include rapid breathing, fatigue, nausea, vomiting and cyanosis.

12. ECOLOGICAL INFORMATION**Toxicity.**

Test	Area	Organism Test	Taxonomic Group	Toxicological Endpoint	Value	Test time	Method	GLP	Year	Substance Test
Acute/Protract	Water	Trout	Fish	LC0	240 mg/l	1 h	-	No	1984	Substance according to par. 1.1 -1.4 of IUCLID dossier
Acute/Protract	Water	Trout	Fish	LC0	60-240 mg/l	12 h	-	No	1984	- " -
Acute/Protract	Water	Trout	Fish	LC0	35 mg/l	96 h	-	No	1984	- " -

Persistence and degradability: No data available.

Bioaccumulative potential: Low

Mobility in soil: No data available.

Results of PBT and vPvB assessment: A chemical safety report is not required.

Other adverse effects: Large quantities of Carbon Dioxide (CO₂), are the main cause of the accelerated green house effect.

13. DISPOSAL CONSIDERATIONS**Waste treatment methods**

The waste treatment methods have to be verified every time with reference to the waste composition, National and EC standards in force. Handling and precautions in case of accidental waste, please refer to Section 5. Actions or precautions must be verified accordingly to the waste composition.

14. TRANSPORT INFORMATION

UN Number: UN 1013

UN proper shipping name: CARBON DIOXIDE

Transport hazard class: 2

Label: 2.2

Packing group: Not applicable

Sea transport: EMS: F-C, S-V

Proper Shipping name: Carbon Dioxide

Air transport: Cargo: Packaging instruction: 200

Max. quantity: 150kg

Passengers: Packaging instruction: 200

Max. quantity: 150kg

ERG Code: 2L

Environmental hazards: Not applicable

Special precautions for users.

Avoid transporting on vehicle where the loading area is not separated from the cabin.

Ensure that the driver knows the potential dangers of the load and is able to operate in case of emergency.

Transport in bulk according to Annex II of MARPOL 73/78 and IBC code: Not applicable

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture.

Ensure all National, EU and local regulations are observed.

Chemical safety assessment.

A chemical safety report is not required

16. OTHER INFORMATION

General Bibliography:

1. (EC) Regulation No. 1907/2006 of the European Parliament (REACH)
2. (EC) Regulation No. 1272/2008 of the European Parliament (CLP)
3. The Merck Index. Ed.10
4. Handling Chemical Safety
5. Niosh - Registry of Toxic Effects of Chemical Substances
6. INRS - Fiche Toxicologique
7. Patty - Industrial Hygiene and Toxicology
8. N.I. Sax - Dangerous properties of Industrial Materials-7 Ed., 1989

Notes for the User.

The information in this Safety Data Sheet is based on the available knowledge at the time of its last revision. The user must make sure that the information is appropriate and complete for the specific product destination. This document cannot be considered as a warranty for specific properties of the product. As product use does not fall into our direct control, the user must bear full responsibility for complying with all the rules and regulations in force relating to hygiene and safety. We disclaim any responsibility for improper usage.