

CARBON DIOXIDE (CO2)**50008**

Label 2.2 : Non flammable, non toxic gas.

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Trade name : CARBON DIOXIDE (CO2)
MSDS Nr : 50008
Use : Calibration.
Chemical formula : CO2
Company identification : Air Liquide Australia Limited
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2 HAZARDS IDENTIFICATION

Hazard classification : Not classified as hazardous according to NOHSC criteria.
Classified as a dangerous good by the criteria of the ADG code.
Hazards identification : In high concentrations may cause asphyxiation.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Preparation : Substance.

Substance name	Contents	CAS No	EC No	Annex No	Classification
Carbon dioxide	100 %	124-38-9	204-696-9	-----	

Contains no other components or impurities which will influence the classification of the product.

4 FIRST AID MEASURES**First aid measures**

- **Inhalation** : In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Low concentrations of CO2 cause increased respiration and headache. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.
- **Skin/eye contact** : Immediately flush eyes thoroughly with water for at least 15 minutes. In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.
- **Ingestion** : Ingestion is not considered a potential route of exposure.

5 FIRE-FIGHTING MEASURES

Specific hazards : Exposure to fire may cause containers to rupture/explode.
Hazardous combustion products : None.

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5 FIRE-FIGHTING MEASURES (continued)

Extinguishing media

- Suitable extinguishing media : All known extinguishants can be used.

Specific methods

: If possible, stop flow of product.
Move away from the container and cool with water from a protected position.

Special protective equipment for fire fighters : In confined space use self-contained breathing apparatus.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions

: Evacuate area.
Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.
Ensure adequate air ventilation.

Environmental precautions

: Try to stop release.
Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

Clean up methods

: Ventilate area.

7 HANDLING AND STORAGE

Storage

: Keep container below 50°C in a well ventilated place.

Handling

: Suck back of water into the container must be prevented.
Do not allow backfeed into the container.
Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.
Refer to supplier's container handling instructions.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protection

: Ensure adequate ventilation.

Occupational Exposure Limits

: Carbon dioxide : ILV (EU) - 8 H - [mg/m³] : 9000
Carbon dioxide : ILV (EU) - 8 H - [ppm] : 5000
Carbon dioxide : TLV[©] -TWA [ppm] : 5000
Carbon dioxide : TLV[©] -STEL [ppm] : 30000

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state at 20 °C

: Gas.

Colour

: Colourless.

Odour

: No odour warning properties.

Molecular weight

: 44

Melting point [°C]

: -56.6

Boiling point [°C]

: -78.5 (s)

Critical temperature [°C]

: 30

Vapour pressure [20°C]

: 57.3 bar

Relative density, gas (air=1)

: 1.52

Relative density, liquid (water=1)

: 0.82

Solubility in water [mg/l]

: 2000

Flammability range [vol% in air]

: Non flammable.

Other data

: Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

CARBON DIOXIDE (CO2)**50008****10 STABILITY AND REACTIVITY**

Hazardous decomposition products : None.
Stability : Stable under normal conditions.

11 TOXICOLOGICAL INFORMATION

Toxicity information : In high concentrations cause rapid circulatory insufficiency. Symptoms are headache, nausea and vomiting, which may lead to unconsciousness.

12 ECOLOGICAL INFORMATION

Ecological effects information : When discharged in large quantities may contribute to the greenhouse effect.
Global warming potential [CO2=1] : 1

13 DISPOSAL CONSIDERATIONS

General : Do not discharge into any place where its accumulation could be dangerous.
To atmosphere in a well ventilated place.
Discharge to atmosphere in large quantities should be avoided.
Contact supplier if guidance is required.

14 TRANSPORT INFORMATION

UN No. : 1013

• **Labelling ADG, IMDG, IATA**



: Label 2.2 : Non flammable, non toxic gas.

Land transport

H.I. nr : 20

Proper shipping name : CARBON DIOXIDE

HAZCHEM - Emergency Action Code : 2T

: 2 = *Fine water spray.*

*T = Recommended personal protective equipment : Full fire kit and breathing apparatus.
Appropriate measures : dilute.*

- **ADG Class** : 2

- **ADG Classification code** : 2 A

- **Packing Instruction(s) - General** : P200

Sea transport

- **IMO-IMDG code**

• **Proper shipping name** : CARBON DIOXIDE

• **Class** : 2.2

- **IMO Packing group** : P200

- **Emergency Schedule (EmS) - Fire** : F-C

- **Emergency Schedule (EmS) - Spillage** : S-V

- **Instructions - Packing** : P200

Air transport

- **ICAO/IATA**

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14 TRANSPORT INFORMATION (continued)

- Proper shipping name : CARBON DIOXIDE
- Class : 2.2
- Passenger and Cargo Aircraft : Allowed.
 - Packing instruction : 200
 - Packing instruction : 200
- Other transport information : Avoid transport on vehicles where the load space is not separated from the driver's compartment.
Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.
Before transporting product containers :
 - Ensure that containers are firmly secured.
 - Ensure cylinder valve is closed and not leaking.
 - Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
 - Ensure valve protection device (where provided) is correctly fitted.
 - Ensure there is adequate ventilation.
 - Compliance with applicable regulations.

15 REGULATORY INFORMATION

- EC Classification : Not included in Annex I.
Not classified as dangerous preparation/substance.
- EC Labelling : No EC labelling required.
- Symbol(s) : None.
- R Phrase(s) : None.
- S Phrase(s) : None.

16 OTHER INFORMATION

Asphyxiant in high concentrations.
Keep container in a well-ventilated place.
Do not breathe the gas.
Contact with liquid may cause cold burns/frostbite.
Ensure all national/local regulations are observed.
The hazard of asphyxiation is often overlooked and must be stressed during operator training.
This Safety Data Sheet has been established in accordance with the applicable European Directives and applies to all countries that have translated the Directives in their national laws.

- DISCLAIMER OF LIABILITY** : Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.
Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

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