

	Safety Data Sheet	Revision nr. 02 Date of Revision 28/05/2009 Printed on the 28/05/2009
	CARBON DIOXIDE	

1. IDENTIFICATION OF THE SUBSTANCE / COMPOUND AND OF THE COMPANY

1.1 IDENTIFICATION OF THE SUBSTANCE OR COMPOUND

Name CARBON DIOXIDE (CO₂) E290

1.2 USE OF THE SUBSTANCE / COMPOUND

Description/Use Food additive to charge with gas/refrigerate drinks
CO₂ enrichment for aquariums

2. DANGER IDENTIFICATION

2.1 CLASSIFICATION OF THE SUBSTANCE OR COMPOUND

Product not classified among the dangerous ones under the provisions of the directives 67/548/EEC and 1999/45/EC and amendments or adaptations

Danger Symbols: None

R-Phrases: None

FREE FROM THE RECORDING OBLIGATION ACCORDING TO ARTICLE 2, SECTION 7, LETTER a) of the (EC) regulation nr. 1907/2006 (REACH)

2.2 DANGER IDENTIFICATION

At high concentration, it may cause suffocation.

3. COMPOSITION/INFORMATION ON INGREDIENTS

NAME	CONCENTRATION (C)	CLASSIFICATION
CARBON DIOXIDE	> 99.99%	-----
Cas No 124-38-9		
EC No 204-696-9		

4. FIRST AID MEASURES

INHALATION: In case of indisposition or suffocation symptoms, move the injured person away from the accident site to a fresh and ventilated place. Immediately call a doctor.

SKIN CONTACT: Immediately remove the contaminated clothes and wash the affected part for at least 15 minutes.

Immediately seek medical advice.

EYE CONTACT: Immediately wash down for at least 15 minutes. Immediately seek medical advice.

INGESTION: Unlikely way of exposure.

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5. FIRE FIGHTING MEASURES

Closed containers exposed to fire heat may generate overpressure and explode. Extinction Means: All existing fire extinguishing means

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

6. MEASURES FOR ACCIDENTAL RELEASE

PERSONAL PRECAUTIONS:

Use the breathing apparatus to enter the concerned area. Evacuate the area and ensure proper ventilation.

ENVIRONMENTAL PRECAUTIONS:

Prevent it from accessing sewage, basements, excavations and places where accumulation can be dangerous.

DEGASSING METHODS:

Let it evaporate

7. MANIPULATION AND STORAGE

7.1 MANIPULATION

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

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

7.2 STORAGE

Gas-based containers cannot be directly exposed to sunshine rays, nor be close to heat sources or in places where temperature can reach 50° C or more.

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

7.3 SPECIAL USES

8. CHECK FOR EXPOSURE/PERSONAL PROTECTION

8.1 THRESHOLD VALUES FOR EXPOSURE

TLV®-TWA:	5000 ppm
TLV®-STEL:	30000 ppm
OEL (UK)-LTEL:	5000 ppm
OEL (UK)-STEL:	15000 ppm
ILV (EU) – 8 H:	5000 ppm
ILV (EU) – 8 H:	9000 mg/m ³

8.2 EXPOSURE CHECKS

Avoid gas inhalation by adopting suitable aeration / ventilation systems.

8.2.1 PROFESSIONAL EXPOSURE CHECKS

8.2.2 ENVIRONMENTAL EXPOSURE CHECKS

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9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 GENERAL INFORMATION

Physical State at 20 °C	Liquefied gas
Colour	Colourless
Odour	Not perceptible

9.2 RELEVANT INFORMATION ON HEALTH, SAFETY AND ENVIRONMENT

Molecular Weight	44
Melting Point	- 56,6 °C
Boiling Point	- 78,5 (s) °C
Critical Temperature	30 °C
Vapour Pressure	57,3 bar (20 °C)
Density (g cm ⁻³ , in s.c.)	1,98 × 10 ⁻³
Solubility into water	1,45 g/l a 293 K
Flash Limits	Non flammable

9.3 OTHER INFORMATION

10. STABILITY AND REACTIVITY

10.1 CONDITIONS TO AVOID

The product is stable under normal use and storage conditions.

10.2 SUBSTANCES TO AVOID

10.3 DANGEROUS DECOMPOSITION PRODUCTS

At temperatures higher than 1,700 °C, it decomposes with the formation of carbon monoxide

11. TOXICOLOGICAL INFORMATION

Carbon dioxide is not a toxic gas and is always in the atmosphere in minimum percentages (almost 0.03%); it can be tolerated without physiological consequences even for continuous exposures up to 0.5%.

Above 0.5%, it generates physiological consequences such as breathing rate increase, indisposition and suffocation. Symptoms include headache and vomit which could lead to lose consciousness.

12. ECOLOGICAL INFORMATION

12.1 ECOTOXICITY

12.2 MOBILITY

12.3 PERSISTENCE AND DEGRADABILITY

12.4 BIOACCUMULATIVE POTENTIAL

12.5 RESULTS OF THE PBT ASSESSMENT

12.6 OTHER HARMFUL EFFECTS

Carbon dioxide (CO₂) is the main cause of the accelerated greenhouse effect.

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13. REMARKS ON DISPOSAL

Do not directly release in the atmosphere.

Dispose the container according to the applicable national regulations. CER code applicable 20 01 40

14. INFORMATION ON TRANSPORT

ROAD-RAIL TRANSPORT:

Class ADR/RID:	2
UN:	1013
Packing Group:	n.a.
Label:	2.2
Proper Shipping Name:	CARBON DIOXIDE

MARITIME TRANSPORT:

Classe IMO:	2
UN:	1013
Packing Group:	n.a.
Label:	2.2
EMS:	F-C, S-V
Proper Shipping Name:	CARBON DIOXIDE

AIR TRANSPORT:

IATA:	2
UN:	1013
Packing Group:	n.a.
Label:	2.2
Cargo:	
Packing Instructions:	200
Max Quantity :	150 kg.
Pass.:	
Packing Instructions:	200
Max Quantity:	75 kg.
ERG code	2L

15. INFORMATION ON REGULATION

Not included in attachment I

Symbols:	None
Risk Phrases:	None
Safety Phrases:	None

16. OTHER INFORMATION.

GENERAL BIBLIOGRAPHY:

1. Directive 1999/45/CE and amendments or adaptations
2. Directive 67/548/CEE and amendments or adaptations
3. Regulation (CE) 1907/2006 of the European Parliament (REACH)
4. The Merck Index. Ed. 10
5. Handling Chemical Safety
6. Niosh - Registry of Toxic Effects of Chemical Substances
7. INRS - Fiche Toxicologique
8. Patty - Industrial Hygiene and Toxicology

Remark for the user:

The information on this sheet is based on the available knowledge at the time of our last revision.

The user must make sure that 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 on 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 uses.