

Carbon dioxide

CO₂**1. Identification of the substance/mixture and of the company/undertaking**

Product identifier	
Name of product	Carbon dioxide Art-Nr.: 3200-3205
Name of substance	Carbon dioxide
EC No	204-696-9
CAS No	124-38-9

Manufacturer / Distributor:**Ehsan International Gases**

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2. Hazards identification**Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]**

Hazard classes and Hazard	Hazard Statements	Classification procedure categories
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Liquef. Gas	H280	
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Hazard statements for physical hazards

H280	Contains gas under pressure; may explode if heated.
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Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]

GHS04

Signal word

Warning

Hazard statements for physical hazards

H280	Contains gas under pressure; may explode if heated.
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Precautionary Statements**Storage**

P403	Store in a well-ventilated place.
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Information pertaining to special dangers for human and environment

Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.
Contact with liquid may cause cold burns/frostbite. Asphyxiant in high concentrations (> 8 %).

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3. Composition/information on ingredients

CAS No 124-38-9
EC No 204-696-9

Carbon dioxide

4. First aid measures

General information

Remove contaminated soaked clothing immediately.
Adhere to personal protective measures when giving first aid.
Seek medical advice immediately.

In case of inhalation

Remove the casualty into fresh air and keep him immobile.
In case of respiratory standstill give artificial respiration by respiratory bag (Ambu bag) or respirator. Send for a doctor.

In case of skin contact

In case of frostbite rinse with plenty of water. Don't remove clothing.
In case of frostbite spray with lukewarm (not hot) water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.

In case of eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call for a doctor immediately.

In case of ingestion

Ingestion is not considered a potential route of exposure.

5. Firefighting measures

Suitable extinguishing media

Product does not burn, fire-extinguishing activities according to surrounding.

Extinguishing media which must not be used for safety reasons

Full water jet

Special hazards arising from the substance or mixture

In the event of fire the following can be released: Carbon monoxide (CO)

Special protective equipment for fire-fighters

Use breathing apparatus with independent air supply (isolated).

Additional information

Cool endangered containers with water spray jet.
Exposure to fire may cause containers to rupture/explode.

6. Accidental release measures

Personal precautions

See chapter 8.

Environmental precautions

If possible, stop flow of product.

Methods for cleaning up

Ensure adequate air ventilation.

Additional Information

Informations for personal protective equipment see chapter 8.

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CO₂**7. Handling and storage****! Advice on safe handling**

Use only in thoroughly ventilated areas.
 Transfer and handle only in enclosed systems.
 Provide good room ventilation even at ground level (vapours are heavier than air).
 Prevent cylinders from falling over.
 Ensure valve outlet cap nut or plug is correctly fitted.
 Ensure valve protection device is correctly fitted.
 Open valve slowly to avoid pressure shock.
 Use only properly specified equipment which is suitable for this product, its supply pressure and temperature.
 Do not allow backfeed into the container.
 Suck back of water into the container must be prevented.
 No water to valves, flanges and other fittings.
 Purging of pipes and valves with inert gases - to avoid: water, solvents.

Advice on protection against fire and explosion

The product is not combustible.

Requirements for storage rooms and vessels

Ventilate store-rooms thoroughly.
 Use transportable pressure equipment.
 Suitable materials: Normalised steel and carbon steel, tempered steel, aluminium alloys, stainless steel. Valve:
 Suitable materials: Brass, copper alloys, carbon steels, aluminium alloys, stainless steel.

Advice on storage compatibility

Do not store with combustible materials.
 Do not store together with animal feedstuffs.
 Do not store together with food.
 Do not store together with oxidizing agents.

Further information on storage conditions

Ensure valve protection device is correctly fitted.
 Store closed container at cool and aired place.
 Store only in original container at temperature of 50°C maximum (=122°F).
 Prevent cylinders from falling over.
 Protect from heat/overheating.

Information on storage stability

Unlimited stability.

Recommendation(s) for intended use

no

8. Exposure controls/personal protection

Indicative occupational exposure limit values (91/322/EEC, 2000/39/EC, 2006/15/EC or 2009/161/EU)

CAS No	Name	Code	[mg/m ³]	[ppm]	Remark
124-38-9	carbon dioxide	8 hours	9000	5000	

Respiratory protection

Keep self contained breathing apparatus readily available for emergency use.

Hand protection

Leather gloves

Eye protection safety goggles, in case of increased risk add protective face shield

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Skin protection

protective clothing

General protective measures

Do not inhale gases/vapours/aerosols.

Hygiene measures

At work do not eat, drink, smoke or take drugs.

Wash hands before breaks and after work.

9. Physical and chemical properties

Form

compressed liquified gas

Colour

colourless

Odour

odourless

Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
pH value in delivery state	not applicable				
Acid number	not applicable				
boiling point	-87,3 °C		1013 hPa		
melting point	-56,6 °C				under pressure
Flash point	no				
Flammable solid	not applicable				
Flammability (gas)	no				
Ignition temperature	no				
Autoignition	no				
Lower explosion limit	no				
Upper explosion limit	no				
Vapour pressure	57330 hPa	20 °C			
Density	770,7 kg/m ³	20 °C			information concerns to liquid phase
Bulk density	not applicable				
Rel. vapour density	1,53				

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Solubility in water	2 g/l	20 °C	1013 hPa		
Solubility/other	Value	Temperature	at	not determined	Remark
Partition coefficient (log p_{OW})				not determined	
Viscosity dynamic	0,07 mPa*s	20 °C			information concerns to liquid phase
Solvent concentration	not applicable				
Oxidizing properties	no				
Explosive properties	no				

10. Stability and reactivity

Conditions to avoid

Heat sources / heat - risk of bursting.

Materials to avoid

Reactions with alkali metals.
Reactions with peroxides.
Reactions with organic substances.

Hazardous decomposition products

Carbon monoxide

Additional information

Stable under normal conditions.

11. Toxicological information

Acute toxicity/Irritability/Sensitization

	Value/Validation	Species	Method	Remark
LC50 acute inhalation			not determined	
Irritability skin			no	
Irritability eye			no	
Skin sensitization			not determined	
Sensitization respiratory system			not determined	

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Subacute Toxicity - Carcinogenicity

Value	Species	Method	Validation
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Mutagenicity

not determined

Reproduction-Toxicity

not determined

Carcinogenicity

not determined
in practice

Experiences made from
Gases have a suffocating

12. Ecological information

Ecotoxicological effects

Value	Species	Method	Validation
Fish LC0 240 mg/l (1 h)	rainbow trout		

Additional ecological information

Value	Method	Remark
COD		not determined
BOD		not determined

General regulation

ODP: 0
GWP: 1

13. Disposal considerations

Waste code No.	Name of waste
16 05 05	gases in pressure containers other than those mentioned in 16 05 04

Recommendations for packaging

Transportable pressure equipment (empty, residual pressure): Return to supplier / manufacturer.

14. Transport information

Land and inland navigation transport ADR/RID

UN 1013 CARBON DIOXIDE, 2.2, (C/E), Classification code: 2A

Marine transport IMDG

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UN 1013 CARBON DIOXIDE, 2.2, nein

Air transport ICAO/IATA-DGR

UN 1013 Carbon dioxide, 2.2

16. Other information

Recommend uses and restrictions

National and local regulations concerning chemicals shall be observed.

Further information

All declarations of safety-data-sheet refer to pure substance.

The information contained herein is based on the state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.

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