

SAFETY DATA SHEET

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Revised edition no : 0

Date : 7 / 30 / 2010

Supersedes : 0 / 0 / 0

Carbon dioxide**SDB 1 1 042**

2.2 : Non flammable, non toxic gas.

Warning

1 Identification of the substance/mixture and of the company/undertaking

Product identifier**Trade name**

: Carbon dioxide

SDS Nr

: SDB 1 1 042

Chemical description

: Carbon dioxide

CAS No :000124-38-9

EC No :204-696-9

Index No :---

Chemical formula: CO₂**Registration-No.**

: Listed in Annex IV / V REACH, exempted from registration.

Use

: Industrial and professional. Perform risk assessment prior to use.

Company identification

: Kraiss & Friz KG

Neckarstrasse 182

70190 Stuttgart GERMANY

Tel : 00 49 711 285 340

Fax : 00 49 711 26 04 77

e-Mail : info@kraissundfriz.de

Emergency telephone number

: 00 49 172 740 2115

2 Hazards identification

Classification of the substance or mixture

Hazard Class and Category Code**Regulation EC 1272/2008 (CLP)**• **Physical hazards**

: Gases under pressure - Compressed gas - Warning (H280)

Classification EC 67/548 or EC 1999/45

: Not included in Annex VI.

Not classified as dangerous preparation/substance.

No EC labelling required.

Label elements

Labelling Regulation EC 1272/2008 (CLP)• **Hazard pictograms****Kraiss & Friz KG**

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2 Hazards identification (continued)

- Hazard pictograms code
- Signal word : Warning
- Hazard statements : H280 : Contains gas under pressure; may explode if heated.
- Precautionary statements
 - Storage : P403 : Store in a well-ventilated place.
- Labelling EC 67/548 or EC 1999/45
- Symbol(s) : None.
- R Phrase(s) : None.
- S Phrase(s) : None.

Other hazards

- Other hazards : Asphyxiant in high concentrations.

3 Composition/information on ingredients

Substance / Preparation : Substance.

Substance name	Contents	CAS No	EC No	Index No	Registration no	Classification
Carbon dioxide	100 %	124-38-9	204-696-9	----	NOTE 1	Liq. Gas (H280)

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

Note 1: Listed in Annex IV / V REACH, exempted from registration.

Note 2: Registration deadline not expired.

Full text of R-phrases see chapter 16

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.
- 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.

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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

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

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
Carbon dioxide : Arbeitsplatzgrenzwert AGW - Germany [mg/m³] TRGS 900 : 9100
Carbon dioxide : AGW - Germany [ppm] : 5000

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.

10 Stability and reactivity

- Hazardous decomposition products** : None.
- Chemical stability** : Stable under normal conditions.

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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 number : 1013

• **Labelling ADR, IMDG, IATA**



: 2.2 : Non flammable, non toxic gas.

Land transport

ADR/RID

H.I. nr : 20

UN proper shipping name : CARBON DIOXIDE

Transport hazard class(es) : 2

- ADR/RID Classification code : 2 A

- Packing Instruction(s) - General : P200

- Tunnel Restriction : C/E Tank carriage: Passage forbidden through tunnels of category C, D and E;
Other carriage: Passage forbidden through tunnels of category E

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

- Proper shipping name : CARBON DIOXIDE

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14 Transport information (continued)

- **Class** : 2.2
- **Passenger and Cargo Aircraft** : Allowed.
 - **Packing instruction** : 200
 - **Packing instruction** : 200

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

Safety, health and environmental regulations/legislation specific for the substance or mixture : Ensure all national/local regulations are observed.

Seveso regulation 96/82/EC : Not covered.

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.

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.

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Details given in this document are believed to be correct at the time of going to press. Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

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