

Safety Data Sheet

Product :

Carbon dioxide (solid)

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MSDS Nr : 018C_AL

Version : 1.01

Date : 31/07/2002

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

MSDS Nr	018C_AL
Product name	Carbon dioxide (solid)
Chemical formula	CO ₂
Company identification	see heading and/or footer see paragraph 16 "OTHER INFORMATION"
Emergency phone numbers	see heading and/or footer see paragraph 16 "OTHER INFORMATION"

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation	Substance.
Components/Impurities	Contains no other components or impurities which will influence the classification of the product.
CAS Nr	00124-38-9
EEC Nr (from EINECS)	204-696-9

3 HAZARDS IDENTIFICATION

Hazards identification	Refrigerated solidified gas. Contact with product may cause cold burns or frostbite. In high concentrations may cause asphyxiation.
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4 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 CO ₂ 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	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. Non flammable
Hazardous combustion products	None
Suitable extinguishing media	All known extinguishants can be used.

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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. Use protective clothing. 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 and storage	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. Keep container below 50°C in a well ventilated place.
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8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit value -TLV(ACGIH)	5000 ppm (2000 edition)
Exposure limit value for country	Great Britain: STEL: 15000 ppm; LTEL: 5000 ppm (EH 40/97) Germany: MAK= 5000 ppm
Personal protection	Ensure adequate ventilation. Protect eyes, face and skin from liquid splashes.

9 PHYSICAL AND CHEMICAL PROPERTIES

Molecular weight	44
Melting point	-56.6 °C
Boiling point	-78,5(s) °C
Critical temperature	30 °C
Relative density, gas	1.52 (air=1)

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Relative density, liquid	1.03 (water=1)
Vapour Pressure 20°C	57.3 bar
Solubility mg/l water	2000 mg/l
Appearance/Colour	Colourless gas
Odour	No odour warning properties.
Other data	Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

10 STABILITY AND REACTIVITY

Stability and reactivity Stable under normal conditions.

11 TOXICOLOGICAL INFORMATION

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

12 ECOLOGICAL INFORMATION

General When discharged in large quantities may contribute to the greenhouse effect.
Can cause frost damage to vegetation.

Global warming factor 1

13 DISPOSAL CONSIDERATIONS

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

14 TRANSPORT INFORMATION

Proper shipping name Carbon dioxide, solid

UN Nr

Class/Div 2.2

ADR/RID Classification code

ADR/RID Hazard Nr 220

Labelling ADR Label 2: non flammable non toxic gas

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.

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Before transporting product containers ensure that they are firmly secured and:

- there is adequate ventilation.
- compliance with applicable regulations.

15 REGULATORY INFORMATION

Number in Annex I of Dir 67/548

Not included in Annex I.

EC Classification

Not classified as dangerous preparation.

EC Labelling (Symbols, R&S phrases)

No EC labelling required.

16 OTHER INFORMATION

Asphyxiant in high concentrations.

May cause frostbite.

Keep container in well ventilated place.

Do not breathe the gas.

Ensure all national/local regulations are observed.

The hazard of asphyxiation is often overlooked and must be stressed during operator training.

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.

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.

This MSDS is for information purposes only and is subject to change without notice. [Prior to purchase of products, please contact your local Air Liquide office for a complete MSDS (with Manufacturer's name and emergency phone number).]

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