

Carbon Dioxide (Solid)

PRODUCT: CARBON DIOXIDE (SOLID) MSDS NR : 300-00-0040 BOC VERSION: 1.01 DATE: 10/4/02 PAGE: 1/1

1 IDENTIFICATION OF THE SUBSTANCE/ PREPARATION AND OF THE COMPANY

Product name	Carbon Dioxide (Solid)
Chemical formula	CO ₂
Company identification	see footer
Emergency phone Nos	see footer

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	124-38-9
EEC Nr (from EINECS)	2046969

3 HAZARDS IDENTIFICATION

Hazards identification	Refrigerated solidified gas. Contact with product may cause cold burns or frostbite. In high concentrations sublimed vapour may cause asphyxiation.
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4 FIRST AID MEASURES

Inhalation of sublimed vapour	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 with Carbon Dioxide (Solid)	Immediately flush eyes thoroughly with water for at least 15 minutes. In case of frostbite spray with tepid 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	Non flammable
Hazardous combustion products	None
Suitable extinguishing media	All known extinguishants can be used.
Specific methods	Water on Solid Carbon Dioxide increases sublimation. Higher risk of asphyxiation.
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	Use only properly specified equipment which is suitable for this product. Contact your supplier if in doubt. Refer to supplier's container handling instructions. Keep container in a well ventilated place.
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8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit	UK: STEL: 15000ppm; LTEL: 5000ppm
Personal protection	Ensure adequate ventilation. Protect eyes, face and skin from contact with product.

9 PHYSICAL AND CHEMICAL PROPERTIES

Molecular weight	44
Melting point	-56.6°C
Boiling point	-78.5°C (sublimes)
Critical temperature	30°C
Relative density, gas	1.52 (air=1)
Relative density, liquid	1.03 (water=1)
Relative density, solid	1.87 (water=1)
Vapour Pressure 20°C	57.3 bar
Solubility mg/l water	2000 mg/l
Appearance/Colour	Translucent white solid
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 at atmospheric pressure and -78°C. At normal temperatures product sublimes into Carbon Dioxide gas. Contact with solid can cause embrittlement of structural materials.
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11 TOXICOLOGICAL INFORMATION

General	High concentrations of sublimed vapour cause rapid circulatory insufficiency. Symptoms are headache, nausea and vomiting, which may lead to unconsciousness.
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**SAFETY
DATA
SHEET**

12 ECOLOGICAL INFORMATION

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

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

UN Nr 1845
Class/Div 9
ADR/RID Item Nr Not specified
ADR/RID Hazard Nr Not specified
Labelling ADR No label required
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 they are firmly secured and:
- adequate ventilation.
- compliance with applicable regulations.

15 REGULATORY INFORMATION

Number in Annex I of Dir 67/548 Not included in Annex 1.
EC Classification Not classified as dangerous substance.
Labelling of containers
- Symbols Label: Not specified

16 OTHER INFORMATION

Ensure all national/local regulations are observed.
Asphyxiant in high concentrations.
Keep container in well ventilated place.
Do not breathe the gas.
May cause frostbite.
The hazard of asphyxiation is often overlooked and must be stressed during operator training.
Users of breathing apparatus must be trained.
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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