



Dry Ice Safety Data Sheet (solid CO₂)

- **Identification of the substance**

Product name	Carbon Dioxide (solid)
Chemical Formula	CO ₂
Company Identification	Contact your Dry Ice supplier
Emergency phone no.'s	Obtain from your Dry Ice supplier

- **Composition / Information on ingredients**

Substance / Preparation	Substance
Components / Impurities	Contains no other components or impurities, which will influence the classification of the product
CAS No.	0012438-6
EEC No. (from EINECS)	2046969

- **Hazards identification**

Hazards Identification (Solid)	Contact with product may cause cold burn or frost bite. In high concentrations sublimed vapor may cause asphyxiation.
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- **First aid measures**

Inhalation of sublimed vapor

In high concentrations may cause asphyxiation. Symptoms may include loss of mobility / consciousness. Victim may not be aware of asphyxiation. Low concentration of CO₂ vapor may cause increased respiration and headache. Remove victim to uncontaminated area. Apply oxygen breathing apparatus, if available. Keep victim warm and rested. Call a doctor. Apply artificial respiration, if breathing has stopped.

Skin / Eye contact (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.

- **Fire fighting measures**

Specific Hazards

Non flammable

Combustion products

None

Extinguishing media

All known extinguishers may be used

Specific methods

Water on solid CO₂ increases sublimation. Higher risk of asphyxiation.

Special protective equipment for fire fighters

In confined spaces use self contained breathing apparatus.



- **Accident 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 sewer, basements and work pits, or any place where its accumulation can be dangerous.

Clean up methods

Ventilate area.

- **Handling and Storage**

Handling and storage

Use only properly specified equipment, which is suitable for this product. Contact your CO2 supplier if in doubt. Refer to supplier's container handling instructions. Keep container in a well ventilated place.

- **Exposure controls / Personal protection**

Exposure limit

UK: STEL; 15000ppm
LTEL: 5000ppm

Personal protection

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(s)°C
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)
Vapor pressure 20°C	57.3 bar
Solubility (mg per 1 ltr. Water)	2000mg
Appearance / Color	Translucent white (solid)
Odor	No odor warning properties
Other data	Gas / vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level.

10. Stability and Reactivity

Stability	Stable at atmospheric pressure and - 78°C. At normal temperatures product sublimates into CO ₂ gas.
Reactivity	Contact with solid can cause embrittlement of structural materials.



11. Toxicological Information

General

Low concentrations of sublimed CO₂ vapor cause rapid circulatory insufficiency. Symptoms are headache, nausea and vomiting.

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 No.

1845

Class / Iv

9

ADR / RID Item No.

Not specified

ADR / RID Hazard No.

Not specified

Tremcard No.

Not specified

Groupcard No.

Not specified



Labeling 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 observe:

- Adequate ventilation
- Compliance with local regulations
- Contact with product may cause cold burn.

15. Regulatory Information

Number in Annex 1 or Dir. 67/548

Not included

EC Classification

Not classified as a dangerous substance.

16. Labeling of containers

Symbols

Label Not specified

Risk phrases

RAs: Asphyxiate in high concentrations
RFb: May cause frost bite

Safety phrases

S 9 Keep container in ventilated place
S23 Do not breathe the gas
S36A Use suitable protective equipment



Other Information

- Ensure that all local/national 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 publication. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from the use of CO₂ product can be accepted.

**FOR SAFETY TRAINING AND ADVICE PLEASE CONTACT
YOUR LOCAL CO₂ SUPPLIER.**