1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

Product identifier

Trade name :	Carbon dioxide (solid)
SDS Nr :	EIGA018C
Chemical description :	Carbon dioxide (solid)
CAS No :	000124-38-9
EC No :	204-696-9
Index No :	---
Chemical formula :	CO_2
Registration-No. :	Listed in Annex IV / V REACH, exempted from registration.
Use :	Industrial and professional. Perform risk assessment prior to use.
Company identification :	Polar Ice Ltd. Portarlington Co. Laois, Ireland Tel. : +353 (0)57 862 3860

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Hazard Class and Category Code
Regulation EC 1272/2008 (CLP)

Classification EC 67/548 or EC 1999/ :	Not included in Annex VI.
45	Not classified as dangerous preparation/substance.

No EC labelling required.

Label elements

• Hazard pictograms code

Other hazards

Other hazards :	Asphyxiant in high concentrations. Refrigerated solidified gas. Contact with product may cause cold burns or frostbite.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Preparation : Substance.

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

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 : 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.

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 : 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. Protect eyes, face and skin from contact with product.
Occupational Exposure Limits :	Carbon dioxide (solid) : ILV (EU) - 8 H - [mg/m³] : 9000 Carbon dioxide (solid) : ILV (EU) - 8 H - [ppm] : 5000 Carbon dioxide (solid) : TLV© -TWA [ppm] : 5000 Carbon dioxide (solid) : TLV© -STEL [ppm] : 30000 Carbon dioxide (solid) : UK: - STEL [ppm] 15000 Carbon dioxide (solid) : UK: - LTEL [ppm] : 5000

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state at 20 °C :	Gas.
Physical state :	Refrigerated solidified 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) :	1.03
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.

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.

Can cause frost damage to vegetation.
Global warming potential [CO2=1] : 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

Land transport
ADR/RID

Sea transport
- IMO-IMDG code

Air transport
- ICAO/IATA
• Passenger and Cargo Aircraft :
• Cargo Aircraft only :
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 : Ensure all national/local regulations are observed.
regulations/legislation specific for the substance or mixture

Seveso regulation 96/82/EC : Not covered.

16. OTHER INFORMATION

Asphyxiant in high concentrations.
May cause frostbite.
Keep container in a well-ventilated place.
Do not breathe the gas.
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.

16. OTHER INFORMATION (CONTINUED)

DISCLAIMER OF LIABILITY : 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. 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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