



SAFETY DATA SHEET

Dry Ice

PART 1

IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

Product Details

Name of the Product : Carbon Dioxide

Product state(Type): Solid

Chemical formula : CO₂

Details of Supplier

Name : JSN Product Limited

Address : Unit 9, Manor Farm , Manor farm road, Reading RG10 0PY

Emergency phone 020 7164 6436

PART 2

COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture: Mono-constituent substance

Preparation: Components/ Contains no other components

Impurities: None which will influence the classification of product

Ingredients: carbon dioxide

CAS Number: 124-38-9

EC number : 204-696-9

PART 3

HAZARDS IDENTIFICATION

- Very Cold (-78c) solidified gas.
- Contact with product may cause cold burns or frostbite.
- In high concentrations sublimed vapour may cause asphyxiation.

PART 4

Description of first aid measures

Eye contact:

Immediately flush eyes with plenty of water for at least 15 minutes, keeping eyelids open. Get medical attention immediately.

Inhalation:

In normal use inhalation of solid material is not likely, however precautions should be taken against the inhalation of evolved gas. If inhaled, remove to fresh air. If breathing is difficult, give oxygen. In all cases of doubt, or when symptoms persist, seek medical attention.

Skin contact:

In case of frostbite spray with tepid water for at least 15 minutes

Protection of first-aiders:

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Notes to physician:

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

PART 5

FIRE FIGHTING MEASURES

Specific hazards:	Non flammable
Hazardous combustion products:	None
Suitable extinguishing media:	Apply water from a safe distance

Advice for firefighters

Special precautions for fire-fighters:

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

PART 6

ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate PPE.

For emergency responders:

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions:

Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill:

Immediately contact emergency personnel. Stop leak if without risk.

Large spill:

Immediately contact emergency personnel. Stop leak if without risk.

PART 7

HANDLING AND STORAGE

Precautions for safe handling

Protective measures:

Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container.

Advice on general occupational hygiene:

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Recommendations:

Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials. Keep container tightly closed and sealed until ready for use.

PART 8

EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit UK:

EU OEL (1991-07-01)

Time Weighted Average (TWA) 9,000 mg/m³ , 5,000 ppm EH40/2005

WELs (1997-01-01) Short Term Exposure Limit 27,400 mg/m³ , 15,000 ppm EH40/2005

WELs (1997-01-01) Time Weighted Average (TWA) 9,150 mg/m³ , 5,000 ppm

Personal protection Ensure adequate ventilation. Protect eyes, face and skin from contact with product

PART 9

PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Solid
Colour:	White.
Odour:	Odourless.
Sublimation temperature:	-78.5 °C
Flammability (solid, gas):	Non-flammable.
Vapour density:	1.53 [Air = 1]
Density:	1.52 g/cm ³
Relative density, liquid:	1.03(water=1)
Relative density, solid :	1.87 (water=1)
Molecular weight:	44
Melting point:	-56.6°C
Boiling point:	-78.5°C (sublimes)
Critical temperature:	30°C
Vapour Pressure:	20°C 57.3 bar
Solubility:	mg/l water 2000 mg/l

PART 10

STABILITY AND REACTIVITY

Reactivity:	No specific test data related to reactivity available for this
Chemical stability:	The product is stable.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

PART 11

TOXICOLOGICAL INFORMATION

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

PART 12

Ecological information

12.1. Toxicity

Ecology - general: No ecological damage caused by this product.

12.2. Persistence and degradability

Carbon Dioxide, Solid or Dry Ice (124-38-9)

Persistence and degradability No ecological damage caused by this product.

12.3. Bio accumulative potential

Carbon Dioxide, Solid or Dry Ice (124-38-9)

BCF fish 1 (no bioaccumulation)

Log Pow 0.83

Log Kow Not applicable.

Bio accumulative potential No ecological damage caused by this product.

12.4. Mobility in soil

Carbon Dioxide, Solid or Dry Ice (124-38-9)

Mobility in soil No data available.

Ecology - soil No ecological damage caused by this product.

12.5. Other adverse effects

Other adverse effects: Can cause frost damage to vegetation.

Effect on ozone layer: None

Global warming potential [CO₂=1]: 1

Effect on the global warming: When discharged in large quantities may contribute to the greenhouse effect

PART 13

Disposal considerations

13.1. Waste treatment methods

Waste treatment methods: See Section 6.

Waste disposal recommendations: Dispose of contents/container in accordance with local/regional/national/international

regulations. Contact supplier for any special requirements.

Part 14

Transport information

In accordance with DOT

Transport document description: UN1845 Carbon dioxide, solid, 9

UN-No.(DOT): UN1845

Proper Shipping Name (DOT): Carbon dioxide, solid

Class (DOT): 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140

Hazard labels (DOT): 9 - Class 9 (Miscellaneous dangerous materials)

DOT Symbols: A - Material is regulated as a hazardous material only when transported by air, W - Material is

regulated as a hazardous material only when transported by water

Additional information

Emergency Response Guide (ERG) Number : 120 (UN1013)

Other information: No supplementary information available.

Special transport precautions: 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 there is adequate ventilation.
- 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.

Transport by sea

UN-No. (IMDG) : 1845

Proper Shipping Name (IMDG) : CARBON DIOXIDE, SOLID (DRY ICE)

Class (IMDG) : 9 - Miscellaneous dangerous compounds

Air transport

UN-No. (IATA) : 1845

Proper Shipping Name (IATA) : Carbon dioxide, solid

Class (IATA) : 9 - Miscellaneous Dangerous Goods