

# SAFETY INFORMATION SHEET

(This data sheet should not be considered a safety data sheet for the purposes of Article 31 of Regulation (EC) No. 1907/2006 (REACH).



## D-GS-Ghiaccio secco

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### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/ENTERPRISE.

#### 1.1 Product Identifier.

Product Name: Ghiaccio secco  
Product Code: D-GS  
Chemical Name: Carbon Dioxide  
CAS No.: 124-38-9  
EC No.: 204-696-9  
REACH number: exempt from registration

#### 1.2 Relevant identified uses of the substance or mixture and discouraged uses.

Industrial and professional use. Do a risk analysis before use.  
Cooling and heat transfer applications.  
Cleaning and/or surface treatment (dry ice blasting, cryoblasting, cryogenic sandblasting).  
Special effects (for entertainment).  
Contact the supplier for more information on use

#### Not recommended uses:

Do not use for the realization of "fog effect" in drinks, due to the risk of ingestion.  
Unsuitable for medical applications or inhalation.  
Uses other than those listed above are not intended.  
Contact the supplier for more information on other uses.

#### 1.3 Information on the supplier of the safety data sheet.

Enterprise: **Dryce S.r.l.**  
address: Via Aosta 5  
City: 20063 Cernusco sul Naviglio -  
Province: MI  
Phone: +39 02 92393501  
Fax: +39 0292141841  
Email: info@dryce.it  
Web: www.dryce.it

**1.4 Emergency telephone number:** +39 0292147368 (Only available during office hours; Monday-Friday; 08:00-17:00)

### SECTION 2: HAZARD IDENTIFICATION.

#### 2.1 Classification of the substance or mixture.

The product is not classified as hazardous in accordance with Regulation (EC) No. 1272/2008.

#### 2.2 Label Elements.

Not applicable

#### 2.3 Other hazards.

The substance is not PBT  
The substance is not vPvB  
The substance has no endocrine-disrupting properties.  
The product does not contain SVHCs or substances on the candidate list

The product may have the following additional risks:  
Refrigerated solidified gas, existing at -78.5°C.  
Contact with the product may result in cryogenic burns. In high concentrations it quickly causes respiratory failure. The symptoms are headache, nausea and vomiting which can lead to loss of consciousness.  
The substance/mixture does not exhibit endocrine-disrupting properties.

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### SECTION 3: COMPOSITION/INGREDIENT INFORMATION.

#### 3.1 Substances. Monoconstituent.

Identifiers	Name	Concentration	(*)Classification - Regulation 1272/2008	
			Classification	Specific concentration limit and acute toxicity estimation
CAS No.: 124-38-9 EC No.: 204-696-9	Carbon Dioxide	100 %	-	-

#### 3.2 Mixtures. Not applicable.

### SECTION 4: FIRST AID MEASURES.

#### 4.1 Description of first aid measures.

Due to the composition and type of substances present in the product, it is free of special warnings.

##### Inhalation.

In the event of respiratory arrest, seek urgent medical attention. Put the bumpy in the open air, keep it warm and resting, if breathing is irregular or stops, practice artificial respiration.

##### Eye contact.

Remove contact lenses if they are worn, and if it is easy to do. Wash your eyes thoroughly with clean, fresh water for at least 10 minutes keeping your eyelids open. Seek medical help.

##### Skin contact.

In case of freezer burns, spray with water for at least 15 minutes. Apply sterile gauze. Obtain medical assistance.

##### Ingestion.

Keep it at rest. NEVER induce vomiting. Seek medical attention immediately.

#### 4.2 Main symptoms and effects, both acute and delayed.

Low concentrations of CO2 cause increased breathing rate and headaches.  
Refer to section 11.

#### 4.3 Indication of whether medical advice and special treatment are required immediately.

If in doubt or when symptoms of discomfort persist, consult a doctor. Never give anything through the mouth to unconscious people.

### SECTION 5: FIRE-FIGHTING MEASURES.

#### 5.1 Means of extinguishing.

##### Suitable extinguishing means:

Powder or CO2 fire extinguisher. In the event of more serious fires, alcohol-resistant foam and powdered water are also used.

##### Unsuitable extinguishing means:

Do not use direct water spray for extinguishing. In the presence of electrical voltage, the use of water or foam as a means of extinguishing is not acceptable.

#### 5.2 Special hazards arising from the substance or mixture.

##### Special risks.

Exposure to combustion or decomposition products can be detrimental to health.

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### 5.3 Recommendations for firefighters.

Cool deposits, cisterns or containers close to the source of heat or fire with water. Take into account the direction of the wind.

### Fire protection equipment.

Depending on the magnitude of the fire, the use of heat protective clothing, self-contained respiratory equipment, gloves, protective goggles or face masks and boots may be necessary.

## SECTION 6: ACCIDENTAL RELEASE MEASURES.

### 6.1 Personal Precautions, Protective Equipment and Emergency Procedures.

For exposure control and personal protective measures, see section 8.

### 6.2 Environmental Precautions.

Not classified as hazardous to the environment, avoid as much as possible, any discharge.

### 6.3 Methods and materials for containment and remediation.

Contain and collect any spilled product with inert absorbent material (earth, sand, vermiculite, diatomaceous earth...) and immediately clean the area with an appropriate decontaminant.

Dispose of product remnants in closed, suitable containers for disposal in accordance with local and national regulations (see section 13).

### 6.4 Reference to other sections.

For exposure control and personal protective measures, see section 8.

For subsequent disposal of residues, follow the recommendations in section 13.

## SECTION 7: HANDLING AND STORAGE.

### 7.1 Precautions for safe handling.

The product does not require special handling, the following general measures are recommended:

For personal protection, see section 8.

Smoking, eating and drinking must be prohibited in the area of application.

Comply with occupational safety and hygiene legislation.

Caution: The containers are not pressure-resistant, never use pressure to empty the containers. Store the product in containers made of a material identical to the original.

For more information on the safe use of dry ice, refer to the "Code of practice dry ice" (EIGA Doc. 150) available at <http://www.eiga.eu> and consult your supplier.

### 7.2 Conditions for safe storage, including any incompatibilities.

The product does not require special storage measures.

Like general storage conditions it should avoid sources of heat, radiation, electricity and contact with food.

Keep away from oxidizing agents and strongly acidic or alkaline materials.

Store the containers in a dry, well-ventilated place.

Store according to local legislation. Observe the label instructions. Once the containers have been opened, they must be carefully closed and placed vertically to prevent shedding.

The product is not affected by Directive 2012/18/EU (SEVESO III).

### 7.3 Special End Uses.

Unavailable.

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### SECTION 8: EXPOSURE/PERSONAL PROTECTIVE CONTROLS.

#### 8.1 Control parameters.

Exposure limit at work for:

Name	CAS No.	Country	Limit value	Ppm	mg/m3
Carbon Dioxide	124-38-9	European Union [1]	Eight hours	5000	9000
			Short term		
		Italy [2]	Eight hours	5000	9000
			Short term		

[1] According to both Binding Occupational Exposure Limits (BOELVs) and Indicative Occupational Exposure Limits (IOELVs) adopted by Scientific Committee for Occupational Exposure Limits to Chemical Agents (SCOEL).

[2] According to the Legislative Decree of the Government no. 277, 15/08/1991, the Legislative Decree no. 66 and the Ministerial Decree of 26/02/2004.

The product does NOT contain substances with Biological Limit Values.

#### 8.2 Exposure Controls.

##### Technical measures:

<b>Concentration:</b>	100 %		
<b>Uses:</b>	<b>Provide adequate ventilation of the exhausts at general and local levels. Ensure that exposure is well below occupational exposure limits (where available). When the release of asphyxiating gases is possible, oxygen detectors should be used. Consider using a work permit system, for example for maintenance activities. Whenever CO2 release is possible, CO2 detectors should be used.</b>		
<b>Respiratory protection:</b>			
If the recommended technical measures are observed, no personal protective equipment is required.			
<b>Hand protection:</b>			
DPI:	Protective gloves against the cold		
Features:	CE mark Category I.		
CEN Standards:	EN 420, EN 511, EN 374-1, EN 374-2, EN 374-3		
Maintenance:	They will be kept in a dry place, away from heat sources, and exposure to sunlight will be avoided if possible. No modifications will be made to the gloves that may alter their resistance nor will paints, dissolvers or adhesives be applied. Inspect gloves, whether new or used, before use, especially after a cleaning treatment and before putting them on to rule out any damage. Do not leave the gloves in a contaminating condition if they intend to be reused. Before removing them, they must be cleaned as best as possible, as long as doing so does not run any danger. To clean them, just wipe them with a damp cloth.		
Comments:	The gloves must be the correct size, and adjust to the hand without being too loose or too tight. They must always be worn with clean and dry hands. If the operation involves possible exposure to a cryogenic liquid, use gloves with ample thermal insulation or cryogenic gloves.		
Material:	PVC (Polyvinyl Chloride)	Penetration time (min.):	> 480
		Material Thickness (mm):	0,35
<b>Eye Protection:</b>			
DPI:	Safety glasses with full frame.		
Features:	CE mark Category II. Full-frame eye protector for protection against dust, fumes, mists and vapours.		
CEN Standards:	EN 165, EN 166, EN 167, EN 168		
Maintenance:	Visibility through the eyepieces must be very good and therefore these elements must be cleaned daily. Protectors must be disinfected periodically following the manufacturer's instructions.		
Comments:	Indicators of deterioration can be: yellowish discoloration of the eyepieces, superficial scratches on the eyepieces, tears, etc.		
<b>Skin protection:</b>			
DPI:	Work footwear.		
Features:	CE mark Category II.		
CEN Standards:	EN ISO 13287, EN 20347		
Maintenance:	These items adapt to the shape of the first user's foot. For this reason, in addition to a matter of hygiene, reuse by another person should be avoided.		

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Comments: Work footwear for professional use is one that adds protective elements designed to protect the user from injuries that could cause accidents. It must be checked for which jobs these shoes are adequate.

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES.

#### 9.1 Information on fundamental physical and chemical properties.

Physical State: Refrigerated Solidified Gas

Color: White

Odor: Not relevant/Not available due to the nature/properties of the product.

Olfactory threshold: Not relevant/Not available due to the nature/properties of the product.

Melting/freezing point: -78.5 °C Melting point does not exist under normal conditions. At atmospheric pressure, solid carbon dioxide sublimates into gaseous carbon dioxide at -78.5°C.

Boiling point or boiling start point and boiling range: >56 °C

Flammability: Not applicable/Not available due to the nature/properties of the product.

Lower explosive limit: Not applicable/Not available due to the nature/properties of the product.

Upper Explosive Limit: Not applicable/Not available due to the nature/properties of the product.

Flash Point: Not applicable/Not available due to the nature/properties of the product.

Auto-ignition temperature: Not applicable/Not available due to the nature/properties of the product.

Decomposition Temperature: Not applicable/Not available due to the nature/properties of the product.

pH: Not relevant/Not available due to the nature/properties of the product.

Kinematic viscosity: Not applicable/Not available due to the nature/properties of the product.

Solubility: Not applicable/Not available due to the nature/properties of the product.

Water solubility: 2 kg/m<sup>3</sup>

Fat solubility: Not applicable/Not available due to the nature/properties of the product.

N-octanol/water partition coefficient (logarithmic value): .86

Vapor pressure: 5730000 Pa

Absolute density: 0.96

Relative density: Not applicable/Not available due to the nature/properties of the product.

Relative vapor density: Not applicable/Not available due to the nature/properties of the product.

Particle characteristics: Not applicable/Not available due to the nature/properties of the product.

#### 9.2 Other Information.

Not applicable/Not available due to the nature/ownership of the product.

### SECTION 10: STABILITY AND RESPONSIVENESS.

#### 10.1 Responsiveness.

The product does not pose a hazard to its responsiveness.

#### 10.2 Chemical Stability.

Stable under the recommended handling and storage conditions (see epigraph 7).

#### 10.3 Possibility of dangerous reactions.

The product does not cause dangerous reactions.

#### 10.4 Conditions to Avoid.

Avoid any kind of improper handling.

#### 10.5 Incompatible Materials.

Keep away from oxidizing agents and strongly alkaline or acidic materials, in order to avoid exothermic reactions.

#### 10.6 Hazardous decomposition products.

It does not decompose if it is intended for its intended uses.

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## SECTION 11: TOXICOLOGICAL INFORMATION.

### 11.1 Information on hazard classes defined in Regulation (EC) No 1272/2008.

There are no data available on the product.

- a) acute toxicity;  
Inconclusive data for classification.
- b) skin corrosion/irritation;  
Inconclusive data for classification.
- c) serious eye damage/serious eye irritation;  
Inconclusive data for classification.
- d) respiratory or skin sensitization;  
Inconclusive data for classification.
- e) germ cell mutagenicity;  
Inconclusive data for classification.
- f) carcinogenicity;  
Inconclusive data for classification.
- g) toxicity for reproduction;  
Inconclusive data for classification.
- (h) Specific Target Organ Toxicity (STOT) - single exposure;  
Inconclusive data for classification.
- (i) specific target organ toxicity (STOT) - repeated exposure;  
Inconclusive data for classification.
- j) danger in the event of aspiration.  
Inconclusive data for classification.

### 11.2 Information on Other Hazards.

#### Endocrine-disrupting properties

This product does not contain any components with endocrine-disrupting properties that have an effect on human health.

#### Other information

Unlike simple asphyxiants, carbon dioxide has the ability to cause death even when normal oxygen levels are maintained (20-21%). It has been found that 5% of CO<sub>2</sub> contributes synergistically to the increase in toxicity of other gases (CO, NO<sub>2</sub>). CO<sub>2</sub> has been shown to increase the production of carboxy or methemoglobin by these gases, probably due to its stimulatory effects on the respiratory and circulatory systems. For more information, please refer to the document 'EIGA Safety Info 24: Carbon Dioxide, Physiological Hazards' available at [www.eiga.eu](http://www.eiga.eu). The substance/mixture does not exhibit endocrine-disrupting properties.

## SECTION 12: ECOLOGICAL INFORMATION.

### 12.1 Toxicity.

There is no information on Ecotoxicity.

### 12.2 Persistence and degradability.

No information on biodegradability is available.

No information on degradability is available.

No information on the persistence and degradability of the product is available.

### 12.3 Bioaccumulation potential.

Information on bioaccumulation.

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Name	Bioaccumulation			
	Log Pow	BCF	NOECs	Level
Carbon Dioxide CAS No.: 124-38-9      EC No.: 204-696-9	0,86	-	-	Very low

### 12.4 Mobility in the soil.

No information on mobility in soil is available  
Disposal in sewers or waterways is prohibited.  
Avoid penetration into the soil.

### 12.5 PBT and vPvB Assessment Results.

No PBT and vPvB product information is available.

### 12.6 Endocrine Disrupting Properties.

This product does not contain components with endocrine-disrupting properties and have an effect on the environment.

### 12.7 Other adverse effects.

The product does not fall within the scope of Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer.  
There is no information on other negative effects on the environment.

## SECTION 13: DISPOSAL CONSIDERATIONS.

### 13.1 Waste Treatment Methods.

Disposal in sewers or waterways is prohibited. Residues and empty containers must be handled and disposed of in accordance with the local/national legislation in force.  
Follow the provisions of Directive 2008/98/EC relating to waste management.

## SECTION 14: TRANSPORTATION INFORMATION.

Transport according to ADR/TPC regulations for road transport, RIDs for rail transport, IMDGs for sea transport and ICAO/IATA for air transport.

**Land:** Road transport: ADR, Rail transport: RID.

Transport documentation: Shipping bill and written instructions.

**Sea:** Ship transport : IMDG.

Transportation documentation: Boarding knowledge.

**Air:** Air freight: IATA/ICAO.

Transport document: Air knowledge.

### 14.1 UN number or ID number.

UN No.: UN1845

### 14.2 Official UN designation of transport.

Description:

ADR/RID: Not hazardous for transport purposes.

IMDG: Not hazardous for transport purposes. CARBON DIOXIDE, SOLID (DRY ICE)

ICAO/IATA: Not dangerous for transport purposes. Carbon dioxide, solid

### 14.3 Classes of danger associated with transport.

**Air transport (ICAO-TI / IATA-DGR)**

Class/ Division(risk(s) accessory(s)) : 9

**Sea Freight (IMDG)**

Class/ Division(risk(s) accessory(s)) : 9

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Emergency Card (EmS) – Fire: F-C  
Emergency Card (EmS) - S-V Spill

### 14.4 Packaging Assembly.

Packaging Assembly: Not Applicable.

### 14.5 Environmental hazards.

Marine pollutant: No

Naval transport, FEm - Emergency cards (F – Fire, S – Spills): Not applicable.

### 14.6 Special precautions for users.

#### Packing Instructions

Air transport (ICAO-TI / IATA-DGR)

Passenger and cargo planes: 954.

Cargo planes only: 954.

Sea Freight (IMDG): P003.

Risk Number: Not Applicable.

Provisions on ADR mass transport: Unauthorised mass transport under ADR

Proceed as provided for in point 6.

ADR LQ: Not applicable.

IMDG LQ: Not applicable.

ICAO LQ: Not applicable.

Precautionary measures for transport:

Avoid transporting in vehicles where the loading area is not separated from the passenger compartment. Make sure the driver is aware of the potential risk of the load and knows what to do in the event of an accident or emergency.

### 14.7 Bulk shipping in accordance with IMO acts.

The product is not affected by bulk cargo vessels.

## SECTION 15: REGULATORY INFORMATION.

### 15.1 Health, safety and environmental laws and regulations specific to the substance or mixture.

The product is not affected by Regulation (EU) No 528/2012 on the marketing and use of biocidal products.

The product is not affected by the process established in Regulation (EU) No 649/2012, relating to the export and import of hazardous chemicals.

### 15.2 Chemical Safety Assessment.

No chemical safety assessment of the product has been carried out.

## SECTION 16: OTHER INFORMATION.

Changing from the previous version:

- Modification of personal protective equipment (SECTION 8.2).

Classification and procedure used to derive it under Regulation (EC) No 1272/2008 [CLP] in relation to mixtures:

Physical hazards

Based on trial data

Health Hazards

Calculation method

Hazards to the environment

Calculation method

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It is recommended that the product be used for its intended use.

#### Abbreviations and acronyms used:

BCF: Bioconcentration factor.  
CEN: European Committee for Standardization.  
EC50: Actual average concentration.  
DPI: Personal protection team.  
LC50: Lethal Concentration, 50%.  
LD50: Lethal dose, 50%.  
NOEC: Concentration with no observed effect.

#### Main bibliographic references and data sources:

<http://eur-lex.europa.eu/homepage.html>  
<http://echa.europa.eu/>  
Regulation (EU) 2020/878.  
Regulation (EC) No 1907/2006.  
Regulation (EC) No 1272/2008.

The information contained in this Product Safety Information Sheet is based on current knowledge and provided in compliance with applicable EC and national laws, as the user's working conditions are beyond our knowledge and control. The product must not be used for any purpose other than those specified without first obtaining written instructions on how to use it. It is always the responsibility of the user to take appropriate measures to comply with the provisions of current legislation.