



SUPAGAS

YES WE CAN!

SDS Number: 0021

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name CARBON DIOXIDE DRY ICE
Synonyms 0021 - SDS NUMBER • DRY ICE • SUPAGAS CARBON DIOXIDE DRY ICE

1.2 Uses and uses advised against

Uses FREEZING APPLICATIONS • SPECIAL EFFECTS APPLICATIONS

1.3 Details of the supplier of the product

Supplier name SUPAGAS PTY LIMITED
Address 5 Benson Rd, Ingleburn, NSW, 2565, AUSTRALIA
Telephone (02) 8788 4444
Fax (02) 8788 4445
Website <http://www.supagas.com.au>

1.4 Emergency telephone numbers

Emergency 1300 651 106

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

Physical Hazards

Not classified as a Physical Hazard

Health Hazards

Not classified as a Health Hazard

Environmental Hazards

Aquatic Toxicity (Chronic): Category 4

2.2 GHS Label elements

Signal word

Pictograms

Hazard statements

H413 May cause long lasting harmful effects to aquatic life.

Prevention statements

P273 Avoid release to the environment.

Response statements

None allocated.

Storage statements

None allocated.

Disposal statements

P501 Dispose of contents/container in accordance with relevant regulations.

2.3 Other hazards

Low temperature solid evaporates to form asphyxiant gas. Contact with dry ice powder can result in frostbite or cold burns.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
CARBON DIOXIDE	124-38-9	204-696-9	100%

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye Cold burns: Immediately flush with tepid water or with sterile saline solution. Hold eyelids apart and irrigate for 15 minutes. Seek medical attention.

Inhalation If inhaled, remove from contaminated area. To protect rescuer, use an Air-line respirator or Self Contained Breathing Apparatus (SCBA). Apply artificial respiration if not breathing. Give oxygen if available.

Skin Cold burns: Remove contaminated clothing and gently flush affected areas with warm water (30°C) for 15 minutes. It is recommended that warm water is applied to clothing before removing it so as to prevent further skin damage. Apply sterile dressing and treat as for a thermal burn. For large burns, immerse in warm water for 15 minutes. DO NOT apply any form of direct heat. Seek immediate medical attention.

Ingestion Ingestion is not considered a potential route of exposure.

First aid facilities Eye wash facilities and safety shower are recommended.

4.2 Most important symptoms and effects, both acute and delayed

Low temperature solid evaporates to form asphyxiant gas. Contact with dry ice powder can result in frostbite or cold burns.

4.3 Immediate medical attention and special treatment needed

Treat for asphyxia and cold burns.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

5.2 Special hazards arising from the substance or mixture

Non flammable.

5.3 Advice for firefighters

Explosion hazard if solid carbon dioxide is enclosed in a sealed or un-vented container. May form explosive mixtures with some metal dusts, including aluminium, chromium, magnesium and magnesium/titanium alloys.

5.4 Hazchem code

2T
2 Fine Water Spray.
T Wear full fire kit and breathing apparatus. Dilute spill and run-off.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate area. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ensure adequate air ventilation. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Use protective clothing.

6.2 Environmental precautions

Try to stop release. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

6.3 Methods of cleaning up

Ventilate area. Release to atmosphere will generate vapour fog clouds which can travel considerable distances and affect visibility. These clouds should be treated as asphyxiating atmospheres as the evaporated liquid will have displaced air. Refer to vessel operating instructions. In an emergency allow liquid and gas to escape to atmosphere. Monitor oxygen concentration in confined spaces.

6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area on a solid surface. Do not store in a glass or sealed container as this can result in rupture or explosion of the container from over-pressurisation. Storage in an insulated container will slow the sublimation process.

7.3 Specific end uses

No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters**Exposure standards**

Ingredient	Reference	TWA		STEL	
		ppm	mg/m ³	ppm	mg/m ³
Carbon dioxide	SWA [AUS]	5000	9000	30000	54000
Carbon dioxide in coal mines	SWA [AUS]	12500	22500	30000	54000
Carbon dioxide in coal mines	SWA [Proposed]	5000	9000	30000	54000

Biological limits

No biological limit values have been entered for this product.

8.2 Exposure controls**Engineering controls**

Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, use local or extraction ventilation at source. Maintain vapour levels below the recommended exposure standard.

PPE

Eye / Face	Wear safety glasses.
Hands	Wear leather gloves.
Body	Wear safety boots.
Respiratory	Where an inhalation risk exists, wear Self Contained Breathing Apparatus (SCBA) or an Air-line respirator.



9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	FROSTY WHITE SOLID
Odour	SLIGHT ODOUR
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	-78°C (Sublimes)
Melting point	NOT AVAILABLE
Evaporation rate	NOT AVAILABLE
pH	NOT AVAILABLE
Vapour density	1.53 (Air = 1)
Relative density	1.35
Solubility (water)	NOT AVAILABLE
Vapour pressure	6,300 kPa @ 25°C

9.1 Information on basic physical and chemical properties

Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

9.2 Other information

Sublimation temperature	-78°C
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10. STABILITY AND REACTIVITY

10.1 Reactivity

Unreactive under normal conditions.

10.2 Chemical stability

Stable under recommended conditions of storage.

10.3 Possibility of hazardous reactions

Polymerization will not occur.

10.4 Conditions to avoid

Avoid moisture.

10.5 Incompatible materials

Low temperature of product will change mechanical properties of some materials. Corrosive when moist.

10.6 Hazardous decomposition products

This material will not decompose to form hazardous products other than that already present.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity	Based on available data, the classification criteria are not met.
Skin	Not classified as a skin irritant. Contact with dry ice powder may cause frostbite injury or cold burns.
Eye	Not classified as an eye irritant. Contact with dry ice powder may cause frostbite injury or cold burns.
Sensitisation	Not classified as causing skin or respiratory sensitisation.
Mutagenicity	Not classified as a mutagen.
Carcinogenicity	Not classified as a carcinogen.
Reproductive	Not classified as a reproductive toxin.
STOT - single exposure	Evaporates to form an asphyxiant gas. Effects are proportional to oxygen displacement. Over exposure may result in dizziness, drowsiness, weakness, fatigue, breathing difficulties and unconsciousness. Carbon dioxide in low concentrations can cause increased respiration and headache.
STOT - repeated exposure	Not classified as causing organ damage from repeated exposure.
Aspiration	Not classified as causing aspiration.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

May cause long-term adverse effects in the environment.

12.2 Persistence and degradability

Does not persist in the environment.

12.3 Bioaccumulative potential

Does not bioaccumulate.

PRODUCT NAME CARBON DIOXIDE DRY ICE**12.4 Mobility in soil**

No information provided.

12.5 Other adverse effects

When discharged to the atmosphere, carbon dioxide may contribute to the greenhouse effect. Can cause frost damage to vegetation

13. DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods**

Waste disposal Cylinders should be returned to the manufacturer or supplier for disposal of contents. Allow product to sublime to the atmosphere in a well ventilated area where no build-up of carbon dioxide vapour can occur. Take measures to ensure no-one comes into contact with the product during this process.

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE



	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	1845	1845	1845
14.2 Proper Shipping Name	CARBON DIOXIDE, SOLID (DRY ICE)	CARBON DIOXIDE, SOLID (DRY ICE)	CARBON DIOXIDE, SOLID (DRY ICE)
14.3 Transport hazard class	9	9	9
14.4 Packing Group	None allocated.	None allocated.	None allocated.

14.5 Environmental hazards

Not a Marine Pollutant.

14.6 Special precautions for user**Hazchem code** 2T**EmS** F-C, S-V

Other information Transport on open top vehicles in accordance with Australian Code for the Transport of Dangerous Goods.

15. REGULATORY INFORMATION**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Poison schedule A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Classifications Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).

Inventory listings **AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals)**
All components are listed on AIIC, or are exempt.

16. OTHER INFORMATION

Additional information Application method: Manual handle with personal protective equipment.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m ³	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

Report status

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

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