

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name CARBON DIOXIDE (SOLID)
Synonyms 305 - SDS NUMBER, DRY ICE

1.2 Uses and uses advised against

Uses FOOD APPLICATIONS, FREEZING APPLICATIONS, SPECIAL EFFECTS APPLICATIONS, MEDICAL APPLICATIONS, BLAST CLEANING, METAL COOLING, INDUSTRIAL APPLICATIONS. CONTACT SUPPLIER FOR MORE APPLICATIONS

1.3 Details of the supplier of the product

Supplier name DRY ICE AUSTRALIA
Address Level 1/45 Catalano Circuit,
Canning Vale, WA, 6155, AUSTRALIA
Telephone 08 9455 3366
Email info@dryiceaustralia.net.au

1.4 Emergency telephone numbers

Emergency 13 11 26 - Poisons Information Centre (24/7) (Australia only)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

2.3 Other hazards

Asphyxiant. Effects are proportional to oxygen displacement. Contact with dry ice powder may cause cold burns/frostbite.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
CARBON DIOXIDE	124-38-9	204-696-9	99.9%

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 None allocated.

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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

No fire or explosion hazard exists.

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

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	WHITE FROSTY SOLID
Odour	ODOURLESS
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	NOT AVAILABLE
Melting point	NOT AVAILABLE
Evaporation rate	NOT AVAILABLE
pH	NOT AVAILABLE
Vapour density	NOT AVAILABLE
Specific gravity	NOT AVAILABLE
Solubility (water)	INSOLUBLE
Vapour pressure	NOT AVAILABLE
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

10. STABILITY AND REACTIVITY

10.1 Reactivity

Unreactive under normal conditions.

10.2 Chemical stability

Stable under recommended conditions of storage.

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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

No information provided.

12.2 Persistence and degradability

No information provided.

12.3 Bioaccumulative potential

No information provided.

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.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal	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	III	III	III

14.5 Environmental hazards

No information provided.

14.6 Special precautions for user

Hazchem code 2T
GTEPG 9B7
EMS F-C, S-V

Other information Transport on open top vehicles in accordance with Australian Code for the Transport of Dangerous Goods. Refer to Commonwealth, State and Territory Dangerous Goods Legislation which contain requirements which affect gas storage and transport.

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 Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

Inventory listings **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
 All components are listed on AICS, or are exempt.

16. OTHER INFORMATION

Additional information The storage of significant quantities of gas cylinders must comply with AS4332. The storage and handling of gases in cylinders.

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.

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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 (highly 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 is based on information concerning the product and is believed to represent the 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.

While Dry Ice Australia has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, Dry Ice Australia accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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