

## SAFETY DATA SHEET

# 2559

Product Name <10% CARBON DIOXIDE, BALANCE NITROGEN

### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Supplier name** BOC LIMITED (AUSTRALIA)  
**Address** 10 Julius Avenue, North Ryde, NSW, 2113, AUSTRALIA  
**Telephone** 131 262, (02) 8874 4400  
**Fax** 132 427 (24 hours)  
**Emergency** 1800 653 572 (24/7) (Australia only)  
**Web site** <http://www.boc.com.au/>  
**Synonym(s)** 2559 - SDS NUMBER  
**Use(s)** CALIBRATION • INDUSTRIAL APPLICATIONS  
**SDS date** 16 December 2013

### 2. HAZARDS IDENTIFICATION

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

#### RISK PHRASES

None allocated

#### SAFETY PHRASES

None allocated

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

**UN number** 1956 **DG division** 2.2  
**Packing group** None Allocated **Subsidiary risk(s)** None Allocated  
**Hazchem code** 2TE

### 3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Identification	Classification	Content (v/v)
CARBON DIOXIDE	CAS: 124-38-9 EC: 204-696-9	Not Available	<10%
NITROGEN	CAS: 7727-37-9 EC: 231-783-9	Not Available	Remainder

### 4. FIRST AID MEASURES

**Eye** None required.  
**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** None required.  
**Ingestion** Ingestion is not considered a potential route of exposure.  
**Advice to doctor** Treat symptomatically.

**5. FIRE FIGHTING MEASURES**

<b>Flammability</b>	Non flammable.						
<b>Fire and explosion</b>	Temperatures in a fire may cause cylinders to rupture. Cool cylinders or containers exposed to fire by applying water from a protected location. Remove cool cylinders from the path of the fire. Evacuate the area if unable to keep cylinders cool. Do not approach cylinders or containers suspected of being hot.						
<b>Extinguishing</b>	Use water fog to cool containers from protected area.						
<b>Hazchem code</b>	2TE <table> <tr> <td>2</td> <td>Water Fog (or fine water spray if fog unavailable)</td> </tr> <tr> <td>T</td> <td>Self Contained Breathing apparatus and protective gloves.</td> </tr> <tr> <td>E</td> <td>Evacuation of people in the vicinity of the incident should be considered.</td> </tr> </table>	2	Water Fog (or fine water spray if fog unavailable)	T	Self Contained Breathing apparatus and protective gloves.	E	Evacuation of people in the vicinity of the incident should be considered.
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**6. ACCIDENTAL RELEASE MEASURES**

<b>Personal precautions</b>	If the cylinder is leaking, evacuate area of personnel. Inform manufacturer/supplier of leak. Use personal protective equipment as detailed in Section 8 of this SDS.
<b>Environmental precautions</b>	Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.
<b>Methods of cleaning up</b>	Carefully move material to a well ventilated remote area, then allow to discharge if safe to do so. Do not attempt to repair leaking valve or cylinder safety devices.
<b>References</b>	See Sections 8 and 13 for exposure controls and disposal.

**7. STORAGE AND HANDLING**

<b>Storage</b>	Do not store near incompatible materials. Cylinders should be stored below 45°C in a secure area, upright and restrained to prevent cylinders from falling. Cylinders should also be stored in a dry, well ventilated area constructed of non-combustible material with firm level floor (preferably concrete), away from areas of heavy traffic and emergency exits.
<b>Handling</b>	Use of safe work practices are recommended to avoid inhalation. Do not drag, drop, slide or roll cylinders. The uncontrolled release of a gas under pressure may cause physical harm. Use a suitable hand truck for cylinder movement.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION****Exposure standards**

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Carbon dioxide	SWA (AUS)	5000	9000	30000	54000
Carbon dioxide in coal mines	SWA (AUS)	12500	22500	30000	54000
Nitrogen	SWA (AUS)	Asphyxiant			

<b>Biological limits</b>	No biological limit allocated.
<b>Engineering controls</b>	Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. 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.



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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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Appearance	COLOURLESS GAS
Odour	ODOURLESS
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	NOT AVAILABLE
Melting point	NOT AVAILABLE
Evaporation rate	NOT APPLICABLE
pH	NOT APPLICABLE
Vapour density	NOT AVAILABLE
Specific gravity	NOT APPLICABLE
Solubility (water)	0.759 cm <sup>3</sup> /cm <sup>3</sup> (Carbon dioxide)
Vapour pressure	NOT RELEVANT
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
% Volatiles	100 %

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## 10. STABILITY AND REACTIVITY

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Chemical stability	Stable under recommended conditions of storage.
Conditions to avoid	Avoid contact with incompatible substances.
Material to avoid	Moist carbon dioxide is corrosive, hence acid resistant materials are required (stainless steel). Certain properties of some plastics and rubbers may be affected by carbon dioxide, ie. embrittlement, leaching of plasticisers, etc.
Hazardous Decomposition Products	This material will not decompose to form hazardous products other than that already present.
Hazardous Reactions	Polymerization will not occur.

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## 11. TOXICOLOGICAL INFORMATION

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Health Hazard Summary	Asphyxiant gas - non irritant. When released into air the concentration of carbon dioxide is diluted. Carbon dioxide concentrations of 3-5 % in air cause increased respiration and headache. Concentrations of 8-15% cause headache, nausea and vomiting which may lead to unconsciousness if not moved to open air and given oxygen. Inhalation of a mixture containing no oxygen may result in unconsciousness from the first breath and death may follow in minutes. Adverse health affects to long term exposure to carbon dioxide have not been reported. However, in environments such as submarines where exposure to levels of 0.5-1.0% may occur, specialist medical opinion should be sought on the effects of long term exposure.
Eye	Non irritant.

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**Inhalation** Asphyxiant. Effects are proportional to oxygen displacement. Acts as a simple asphyxiant by displacing oxygen in the lungs thereby diminishing the supply of oxygen to the blood and tissues.

**Skin** Non irritant.

**Ingestion** Ingestion is considered unlikely due to product form.

**Toxicity data** CARBON DIOXIDE (124-38-9)  
LC50 (inhalation) 470000 ppm/30M (rat)  
LCLo (inhalation) 9 pph/5M (human)

## 12. ECOLOGICAL INFORMATION

**Toxicity** No information provided.

**Persistence and degradability** No information provided.

**Bioaccumulative potential** No information provided.

**Mobility in soil** No information provided.

**Other adverse effects** When discharged to the atmosphere, carbon dioxide may contribute to the greenhouse effect. No ecological damage caused by this product. Nitrogen is the major component of the atmosphere (78 % v/v). It is a fairly unreactive gas and will not contribute to ozone depletion or global warming. If released to soil or water, nitrogen will quickly disperse to the atmosphere. Not toxic to plants or animals except at extremely high (asphyxiating) levels.

## 13. DISPOSAL CONSIDERATIONS

**Waste disposal** Cylinders should be returned to the manufacturer or supplier for disposal of contents.

**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)
<b>UN number</b>	1956	1956	1956
<b>Proper shipping name</b>		COMPRESSED GAS, N.O.S.	
<b>DG class/ Division</b>	2.2	2.2	2.2
<b>Subsidiary risk(s)</b>	None Allocated	None Allocated	None Allocated
<b>Packing group</b>	None Allocated	None Allocated	None Allocated
<b>GTEPG</b>	2C1		
<b>Hazchem code</b>	2TE		
<b>EMS</b>	F-C, S-V		
<b>Other information</b>	Ensure cylinder is separated from driver and that outlet of relief device is not obstructed.		

## 15. REGULATORY INFORMATION

**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).

Inventory Listing(s) **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
All components are listed on AICS, or are exempt.  
**NEW ZEALAND: NZIoC (New Zealand Inventory of Chemicals)**  
All components are listed on the NZIoC inventory, or are exempt.

## 16. OTHER INFORMATION

**Additional information** APPLICATION METHOD: Gas regulator of suitable pressure and flow rating fitted to cylinder or manifold with low pressure gas distribution to equipment.

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as 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: 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 ChemAlert 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  
GHS Globally Harmonized System  
IARC International Agency for Research on Cancer  
LD50 Lethal Dose, 50% / Median Lethal Dose  
mg/m<sup>3</sup> Milligrams per Cubic Metre  
OEL Occupational Exposure Limit  
PEL Permissible Exposure Limit  
pH relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).  
ppm Parts Per Million  
REACH Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals  
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

**Revision history**

Revision	Description
1.0	Initial SDS Creation Initial SDS Review

**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.

While RMT 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, RMT 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.

**Product Name** <10% CARBON DIOXIDE, BALANCE NITROGEN

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**Revision:** 1.1  
**SDS Date:** 16 December 2013

**End of SDS**