BOC
A Member of The Linde Group

SAFETY DATA SHEET

Product Name **2 COMPONENT MIXTURE (C2C14, BALANCE AIR)**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name	**BOC LIMITED (AUSTRALIA)**
Address	10 Julius Avenue, North Ryde, NSW, AUSTRALIA, 2113
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)	BOC 2 COMPONENT MIXTURE • SPECIAL GAS MIXTURE
Use(s)	CALIBRATION • INDUSTRIAL APPLICATIONS
SDS Date	03 Sep 2010

2. HAZARDS IDENTIFICATION

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

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

UN No.	1956	**DG Class**	2.2	**Subsidiary Risk(s)**	None Allocated
Packing Group	None Allocated	**Hazchem Code**	2TE		

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content
TETRACHLOROETHYLENE (PERCHLOROETHYLENE)	C2-Cl4	127-18-4	<1%
AIR	Not Available	Not Available	>99%

4. FIRST AID MEASURES

Eye	None required.
Inhalation	If inhaled, remove from contaminated area. If other than minor symptoms are displayed, seek immediate medical attention. An inhalation hazard is not anticipated under normal conditions of use. For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor.
Skin	None required.
Ingestion	Due to product form and application, ingestion is considered unlikely.
Advice to Doctor	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flammability	Non flammable.
Fire and Explosion	Temperatures in a fire may cause cylinders to rupture. Cool cylinders or containers exposed to fire by applying water from a protected location. Do not approach cylinders or containers suspected of being hot.
Extinguishing	Use water fog to cool containers from protected area.
Hazchem Code	2TE

6. ACCIDENTAL RELEASE MEASURES

Spillage If the cylinder is leaking, evacuate area of personnel. Inform manufacturer/supplier of leak. Use personal protective equipment. Carefully move material to a well ventilated remote area, then allow to discharge. Do not attempt to repair leaking valve or cylinder safety devices.

7. STORAGE AND HANDLING

Storage 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.

Handling 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 Stds

Ingredient	Reference	TWA		STEL	
Perchloroethylene	SWA (AUS)	50 ppm	340 mg/m3	150 ppm	1020 mg/m3

Biological Limits

Ingredient	Reference	Determinant	Sampling Time	BEI
TETRACHLOROETHYLENE (PERCHLOROETHYLENE)	ACGIH BEI	Tetrachloroethylene in end-exhaled air	Prior to last shift of workweek	5 ppm
	ACGIH BEI	Tetrachloroethylene in blood	Prior to last shift of workweek	0.5 mg/L
	ACGIH BEI	Trichloroacetic acid in urine	End of shift at end of workweek	3.5 mg/L

Engineering Controls No special precautions are normally required when handling this product. Maintain vapour levels below the recommended exposure standard.

PPE Wear leather gloves, safety boots and safety glasses.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	COLOURLESS GAS	**Solubility (water)**	NOT AVAILABLE
Odour	ODOURLESS	**Specific Gravity**	NOT APPLICABLE
pH	NOT APPLICABLE	**% Volatiles**	100 %
Vapour Pressure	NOT AVAILABLE	**Flammability**	NON FLAMMABLE
Vapour Density	NOT AVAILABLE	**Flash Point**	NOT RELEVANT
Boiling Point	NOT AVAILABLE	**Upper Explosion Limit**	NOT RELEVANT
Melting Point	NOT RELEVANT	**Lower Explosion Limit**	NOT RELEVANT
Evaporation Rate	NOT APPLICABLE		

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended conditions of storage.
Conditions to Avoid	Avoid heat, sparks, open flames and other ignition sources.
Material to Avoid	Compatible with most commonly used materials.
Hazardous Decomposition Products	May evolve toxic gases if heated to decomposition.
Hazardous Reactions	Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary	Non toxic gas. As the amount of oxygen inhaled is increased, chest tightness, burning pains and coughing spasms may occur. Other symptoms of hyperoxia include cramps, nausea, dizziness, hypothermia, amblyopia (loss of vision), bradycardia, fainting spells and convulsions capable of causing death. Over exposure at normal or elevated pressure may result in severe thickening and scarring of lung tissues. Not carcinogenic or mutagenic.
Eye	Non irritant.
Inhalation	Non irritant. Adverse health effects are not anticipated under normal conditions of use.
Skin	Non irritant.
Ingestion	Ingestion is considered unlikely due to product form.
Toxicity Data	TETRACHLOROETHYLENE (PERCHLOROETHYLENE) (127-18-4) LCLo (Inhalation): 4000 ppm/4 hour (rat) LD50 (Ingestion): 2629 mg/kg (rat) LD50 (Intraperitoneal): 2100 mg/kg (dog) LD50 (Skin): 65 gm/kg (mouse) LDLo (Ingestion): 4000 mg/kg (dog) LDLo (Subcutaneous): 2200 mg/kg (rabbit) TDLo (Ingestion): 195 g/kg/50 Weeks intermittent (mouse - cancer)

12. ECOLOGICAL INFORMATION

Environment	No known ecological damage is caused by this product.

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

Transport Ensure cylinder is separated from driver and that outlet of relief device is not obstructed.

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

Shipping Name	COMPRESSED GAS, N.O.S.				
UN No.	1956	**DG Class**	2.2	**Subsidiary Risk(s)**	None Allocated
Packing Group	None Allocated	**Hazchem Code**	2TE	**GTEPG**	2C1

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 Drugs and Poisons (SUSDP).
AICS	All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

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

Information

in cylinders.

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

ABBREVIATIONS:
ACGIH - American Conference of Industrial Hygienists.
ADG - Australian Dangerous Goods.
BEI - Biological Exposure Indice(s).
CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.
CNS - Central Nervous System.
EC No - European Community Number.
HSNO - Hazardous Substances and New Organisms.
IARC - International Agency for Research on Cancer.
mg/m3 - Milligrams per Cubic Metre.
NOS - Not Otherwise Specified.
pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm - Parts Per Million.
RTECS - Registry of Toxic Effects of Chemical Substances.
STEL - Short Term Exposure Limit.
SWA - Safe Work Australia.
TWA - Time Weighted Average.

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 Chem Alert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this Chem Alert 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.

Report Status

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

It is based on information concerning the product which has been provided to RMT by the manufacturer 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.

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.

Prepared By

Risk Management Technologies
5 Ventnor Ave, West Perth
Western Australia 6005
Phone: +61 8 9322 1711
Fax: +61 8 9322 1794
Email: info@rmt.com.au
Web: www.rmt.com.au

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End of Report