MATERIAL SAFETY DATA SHEET

MSDS No: 10831012

PRODUCT NAME **R14**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name	**COREGAS PTY LTD**
Address	66 Loftus Rd, Yennora, NSW, AUSTRALIA, 2161
Telephone	(02) 9794 2223
Fax	(02) 9794 2221
Emergency	1300 657 070
Email	info@coregas.com
Web Site	http://www.coregas.com/
Synonym(s)	10831012 - MSDS NUMBER
Use(s)	INDUSTRIAL APPLICATIONS • REFRIGERANT GAS
MSDS Date	09 June 2008

2. HAZARDS IDENTIFICATION

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO NOHSC CRITERIA

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

UN No.	1982	**DG Class**	2.2	**Subsidiary Risk(s)**	None Allocated
Pkg Group	None Allocated	**Hazchem Code**	2[T]E	**EPG**	2C2

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content
CARBON TETRAFLUORIDE	CF4	75-73-0	100%

4. FIRST AID MEASURES

Eye	Treatment for 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). Be aware of possible explosive atmospheres. 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. 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	For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). Due to product form and application, ingestion is considered unlikely.
Advice to Doctor	Treat symptomatically

5. FIRE FIGHTING MEASURES

Flammability Non flammable liquid. May evolve toxic gases (carbon oxides, hydrogen fluoride, fluorides, hydrocarbons) when heated to decomposition. Will evolve highly corrosive - toxic hydrogen fluoride gas at very high temperatures.

Fire and Explosion Non flammable. Temperatures in a fire may cause cylinders to rupture. Call fire brigade. Cool cylinders exposed to fire by applying water from a protected location. Do not approach cylinders suspected of being hot.

Extinguishing Non flammable. Use water fog to cool containers from protected area.

Hazchem Code 2[T]E

6. ACCIDENTAL RELEASE MEASURES

Spillage If the cylinder is leaking, eliminate all potential ignition sources and evacuate area of personnel. Inform manufacturer/supplier of leak. Wear appropriate PPE and carefully move it 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 Do not store near sources of ignition or 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.

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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

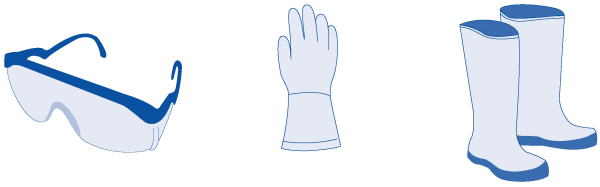
Exposure Stds

Ingredient	Reference	TWA		STEL	
		ppm	mg/m3	ppm	mg/m3
Fluorides, as F	NOHSC (AUS)	--	2.5	--	--

Biological Limits No biological limit allocated.

Engineering Controls Use with adequate natural ventilation. Open windows and doors where possible. In poorly ventilated areas, mechanical extraction ventilation is recommended.

PPE Wear safety boots, leather gloves and safety glasses. When using large quantities or where heavy contamination is likely, wear coveralls. Where an inhalation risk exists, wear an Air-line respirator or self Contained Breathing Apparatus (SCBA).



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	COLOURLESS GAS	**Solubility (water)**	INSOLUBLE
Odour	ODOURLESS	**Specific Gravity**	NOT AVAILABLE
pH	NOT RELEVANT	**% Volatiles**	NOT AVAILABLE
Vapour Pressure	NOT AVAILABLE	**Flammability**	NON FLAMMABLE
Vapour Density	NOT AVAILABLE	**Flash Point**	NOT RELEVANT
Boiling Point	-128°C	**Upper Explosion Limit**	NOT RELEVANT
Melting Point	-187°C	**Lower Explosion Limit**	NOT RELEVANT
Evaporation Rate	NOT AVAILABLE	**Autoignition Temperature**	NOT AVAILABLE

10. STABILITY AND REACTIVITY

Material to Avoid Incompatible with oxidising agents (eg. hypochlorite), alkalis/ alkali earth metals and finely divided metal powders (eg. aluminium, barium, lithium). Compounding ingredients in natural rubber can be extracted during rapid liquid withdrawal and will swell.

Decomposition May evolve toxic gases (carbon oxides, hydrogen fluoride, fluorides, hydrocarbons) when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary Asphyxiant. Symptoms of exposure are directly related to displacement of oxygen from air. As the amount of oxygen inhaled is reduced from 21-14% volume, the pulse rate will accelerate and the rate and volume of breathing will increase. The ability to maintain attention and think clearly is diminished, muscular co-ordination is somewhat disturbed. As oxygen decreases from 14-10% volume, judgement becomes faulty, severe injuries may cause no pain. Muscular effort lead to rapid fatigue. Further reduction to 6% may cause nausea and vomiting. Ability to move may be lost. Permanent brain damage may result even after resuscitation from exposure to this low level of oxygen. Below 6% breathing is in gasps and convulsions may occur. Inhalation of a mixture containing no oxygen may result in unconsciousness from the first breath and death will follow in minutes.

Eye Irritant vapour. Low temperature evaporating liquid can cause cold burns.

Inhalation Asphyxiant. Effects are proportional to oxygen displacement.

Skin Irritating vapour. Low temperature evaporating liquid can cause cold burns.

Ingestion Ingestion is considered unlikely due to product form. However, ingestion may result in discomfort of the gastrointestinal tract from rapid evaporation of liquid and consequent evolution of gas. Some of the effects of inhalation would be expected.

Toxicity Data No LD50 data available for this product.

12. ECOLOGICAL INFORMATION

Environment Vapour-phase tetrafluoromethane is expected to be degraded very slowly in the ambient atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be >110 years. Fluorocarbons have been shown to have a role in depletion of the stratospheric ozone layer.

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	TETRAFLUOROMETHANE, COMPRESSED (REFRIGERANT GAS R 14, COMPRESSED)				
UN No.	1982	**DG Class**	2.2	**Subsidiary Risk(s)**	None Allocated
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IATA

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IMDG

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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 Information APPLICATION METHOD: Transferred as a liquid into and out of refrigeration equipment by controlled pressure decanting through flexible pipework.

ABBREVIATIONS:
ADB - Air-Dry Basis.
BEI - Biological Exposure Indice(s)
CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.
CNS - Central Nervous System.
EINECS - European INventory of Existing Commercial chemical Substances.
IARC - International Agency for Research on Cancer.
M - moles per litre, a unit of concentration.
mg/m3 - Milligrams per cubic metre.
NOS - Not Otherwise Specified.
NTP - National Toxicology Program.
OSHA - Occupational Safety and Health Administration.
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.
TWA/ES - Time Weighted Average or Exposure Standard.

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 Material Safety Data Sheet ('MSDS').

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 MSDS, 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 MSDS.

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