MATERIAL SAFETY DATA SHEET

PRODUCT NAME **BRAKLEEN (AEROSOL)**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name	**CRC INDUSTRIES (AUST) PTY LIMITED**
Address	9 Gladstone Road, Castle Hill, NSW, AUSTRALIA, 2154
Telephone	(02) 9849 6700
Fax	(02) 9680 4914
Emergency	131 126
Email	info@crcind.com.au
Web Site	http://www.crcind.com.au/
Synonym(s)	BRAKLEEN (AEROSOL) • SOLVENT BRAKE CLEANER • CRC BRAKLEEN (AEROSOL) (FORMERLY)
Use(s)	BRAKE CLEANER • CLEANING AGENT
MSDS Date	10 February 2006

2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO NOHSC CRITERIA

RISK PHRASES

R40	Limited evidence of a carcinogenic effect.

SAFETY PHRASES

S23	Do not breathe gas/fumes/vapour/spray (where applicable).
S24/25	Avoid contact with skin and eyes.
S36/37	Wear suitable protective clothing and gloves.

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

UN No.	1950	**DG Class**	2.1	**Subsidiary Risk(s)**	None Allocated
Pkg Group	None Allocated	**Hazchem Code**	2Y	**EPG**	2D1

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content
TETRACHLOROETHYLENE (PERCHLOROETHYLENE)	C2-Cl4	127-18-4	30-60%
DICHLOROMETHANE (METHYLENE CHLORIDE)	C-H2-Cl2	75-09-2	10-30%
LIQUEFIED PETROLEUM GAS (LPG)	C3H8/C3H6/C4H10	68476-85-7	10-30%
PETROLEUM DISTILLATE(S)	Not Available	Not Available	30-60%
CARBON DIOXIDE (PROPELLANT)	Not Available	124-38-9	1-10%

4. FIRST AID MEASURES

Eye If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poison Information Centre or a doctor, or for at least 15 minutes.

Inhalation If inhaled, remove from contaminated area. To protect rescuer, use a Type A (Organic vapour) respirator or Air-line respirator (in poorly ventilated areas). Apply artificial respiration if not breathing.

Skin If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre or a doctor.

Ingestion For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. Ingestion is considered unlikely due to product form.

Advice to Doctor Treat symptomatically

5. FIRE FIGHTING MEASURES

Flammability Highly flammable - explosive vapour. May evolve toxic gases (hydrogen chloride/ fluoride, phosgene, carbon oxides, hydrocarbons) when heated to decomposition. Eliminate all ignition sources inluding cigarettes, open flames, spark producing switches/tools, pilot lights, heaters, naked lights etc. when handling. Aerosol cans may explode when heated above 50℃.

Fire and Explosion Highly flammable - explosive vapour. Evacuate area and contact emergency services. Toxic gases (chlorides, fluorides, carbon oxides, hydrogen chloride/fluoride, phosgene) may be evolved. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

Extinguishing Dry agent, carbon dioxide or foam. Prevent contamination of drains or waterways.

Hazchem Code 2Y

6. ACCIDENTAL RELEASE MEASURES

Spillage If spilt (bulk), contact emergency services where appropriate. Wear splash-proof goggles, PVA/viton gloves, a Type A (Organic vapour) respirator (or Air-line respirator in poorly ventilated areas), coveralls and boots. Ventilate and clear area of all unprotected personnel. Eliminate all heat and ignition sources. Absorb spill with sand or similar, collect and place in sealable containers for disposal.

7. STORAGE AND HANDLING

Storage Store in cool, dry, well ventilated area, removed from oxidising agents (eg. hypochlorites), acids, alkalis, active metals, amines, direct sunlight, heat sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.

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
LIQUEFIED PETROLEUM GAS (LPG)	NOHSC (AUS)	1000.0	1800.0	1000.0	1800.0
Methylene chloride	NOHSC (AUS)	50.0	174.0	--	--
Oil mists	NOHSC (AUS)	--	5.0	--	--
Perchloroethylene	NOHSC (AUS)	50.0	340.0	150.0	1020.0

CARBON DIOXIDE (PROPELLANT)

ES-STEL : 30,000 ppm (54,000 mg/m3)

ES-TWA: 5,000 ppm (9,000 mg/m3)

Biological Limits

Ingredient	Reference	Determinant	Sampling Time	BEI
DICHLOROMETHANE (METHYLENE CHLORIDE)	ACGIH BEI	Dichloromethane in urine	End of shift	0.3 mg/L

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 Do not inhale vapours. Use in well ventilated areas. In poorly ventilated areas, mechanical explosion proof extraction ventilation is recommended. Flammable/explosive vapours may accumulate in poorly ventilated areas. Vapours are heavier than air and may travel some distance to an ignition source and flash back. Maintain vapour levels below the recommended exposure standard. Maintain vapour levels below the recommended exposure standard.

PPE Wear splash-proof goggles and viton (R) or PVA gloves. When using large quantities or where heavy contamination is likely, wear coveralls. Where an inhalation risk exists, wear a Type A-Class P1 (Organic gases/vapours and Particulate) Respirator and an Air-line respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	CLEAR COLOURLESS LIQUID (AEROSOL DISPENSED)	**Solubility (water)**	SLIGHTLY SOLUBLE
Odour	ETHEREAL ODOUR	**Specific Gravity**	1.07
pH	NOT AVAILABLE	**% Volatiles**	100 %
Vapour Pressure	26.6 kPa @ 20℃	**Flammability**	HIGHLY FLAMMABLE
Vapour Density	> 1 (Air = 1)	**Flash Point**	10℃
Boiling Point	40℃ (Initial)	**Upper Explosion Limit**	22 %
Melting Point	NOT AVAILABLE	**Lower Explosion Limit**	1.4 %
Evaporation Rate	NOT AVAILABLE	**Autoignition Temperature**	NOT AVAILABLE

10. STABILITY AND REACTIVITY

Material to Avoid Incompatible with oxidising agents (eg. hypochlorites, peroxides), acids (eg. nitric acid), alkalis, active metals (aluminium powder) and heat sources. Will attack most plastics.

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

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary Toxic - narcotic. Avoid eye-skin contact & vapour generation - inhalation. Over exposure may result in nerve, kidney, liver and lung damage. Tetrachloroethylene is classified as a probable human carcinogen (IARC Group 2A) and dichloromethane is classified as a possible human carcinogen (IARC Group 2B). Those individuals with pre-existing respiratory, central nervous system, liver or kidney disease are advised to avoid exposure.

Eye Corrosive - severe irritant. Contact may result in pain, redness, corneal burns and ulceration with possible permanent damage.

Inhalation Toxic - irritant - narcotic. Over exposure may result in upper respiratory tract irritation, nausea and headache. High levels; dizziness, breathing difficulties, anaesthesia, cardiac arrhythmias, pulmonary oedema, unconsciousness and possible respiratory failure. Chronic exposure may result in liver, kidney and CNS damage.

Skin Irritant. Contact may result in drying and defatting of the skin, rash and dermatitis. May be absorbed through skin with toxic effects.

Ingestion Toxic. Ingestion may result in nausea, vomiting, abdominal pain, dizziness, fatigue and diarrhoea. Ingestion of large quantities may result in liver and kidney damage, and unconsciousness. Aspiration may result in chemical pneumonitis and pulmonary oedema.

Toxicity Data TETRACHLOROETHYLENE (PERCHLOROETHYLENE) (127-18-4)
LD50 (Ingestion): 2629 mg/kg (rat)
LD50 (Skin): 65 gm/kg (mouse)
DICHLOROMETHANE (METHYLENE CHLORIDE) (75-09-2)
LC50 (Inhalation): 52 g/m3 (rat)
LD50 (Ingestion): 1600 mg/kg (rat)

12. ECOLOGICAL INFORMATION

Environment If dichloromethane released into the atmosphere will degrade by reaction with hydroxyl radicals (half life: 19 to 194 days). Dichloromethane evaporates from the near surface soil and water surface. Biodegradation is possible but will probably be quite slow when compared with the evaporation rate.

13. DISPOSAL CONSIDERATIONS

Waste Disposal For small amounts absorb contents with sand or similar and dispose of to an approved landfill site. Do not puncture or incinerate aerosol cans. Contact the manufacturer for additional information.

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

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

Shipping Name	AEROSOLS				
UN No.	1950	**DG Class**	2.1	**Subsidiary Risk(s)**	None Allocated
Pkg Group	None Allocated	**Hazchem Code**	2Y	**EPG**	2D1

15. REGULATORY INFORMATION

Poison Schedule Classified as a Schedule 6 (S6) Poison 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 WORK PRACTICES - SOLVENTS: Organic solvents may present both a health and flammability hazard. It is recommended that engineering controls should be adopted to reduce exposure where practicable (for example, if using indoors, ensure explosion proof extraction ventilation is available). Flammable or combustible liquids with explosive limits have the potential for ignition from static discharge. Refer to AS 1020 (The control of undesirable static electricity) and AS 1940 (The storage and handling of flammable and combustible liquids) for control procedures.

SYNERGISM - ANTAGONISM: Ingredients in this product may act together to aggravate or reduce adverse effects. Accordingly the time weighted average concentration (TWA) provided for single ingredients should be considered as a guide only and all due care exercised when handling.

IARC - GROUP 2B - POSSIBLE HUMAN CARCINOGEN: This product contains an ingredient which has demonstrated sufficient evidence to have been classified by the International Agency for Research into Cancer (IARC) as possibly carcinogenic to humans and whose use should be strictly monitored and controlled.

DICHLOROMETHANE VAPOUR may only produce a flammable mixture with air in a vacuum (1.7 bar @ 27℃). It may produce a flammable mixture with pure oxygen between 15.5% and 66.4% dichloromethane.

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

MSDS Date: 10 February 2006

End of Report