TECHNICAL DATA SHEET

Product No. 2015 & 2016

ACN 000 725 833

CRC Industries (Aust) Pty. Limited

PO Box 199, Castle Hill, NSW 1765.

I. Product Description

CRC CO CONTACT CLEANER is a unique, plastic safe, scientifically formulated, technically proven, stable, inert high purity cleaning solvent. **CRC CO CONTACT CLEANER** is non-corrosive, non-staining, rapid-complete evaporation and contains no lubricants. **CRC CO CONTACT CLEANER** contains **COZOL** - a special proprietary blend of solvents which enhances the cleaning power without damaging plastics.

II. Applications

CRC CO CONTACT CLEANER is recommended for cleaning:
Relays, Switches, Circuit Breakers, Alarm and Signal Systems, Printed Circuit Boards, Connectors, Generators, Contacts, Laboratory and Test Equipment, Video Heads/Drums, Terminals, Plugs and Jacks.

III. Features & Benefits

- Fast Evaporation. Minimizes downtime associated with “clean-in-place” cleaning methods.
- Residue Free. Prevents harmful buildup and eliminates rinsing or wiping.

IV. Physical Properties without propellant

Flash Point	$<0^0$C	**Boiling Point**	60.5^0C. Initial
Odour	Mild Ethereal	**Solubility**	Slight in water
Appearance	Colourless liquid	**% Volatile**	100
Vapour Density	4.5	**Specific Gravity**	0.67 @ 20^0C.
Dielectric Strength	40,000 Volts per ASTM D-877	**Propellant**	CO_2
Fire Point	None		
VOC Content including propellant	95%wt, 700 g/litre		

V. Specification and Approvals

- NZSFA Approved C12 (All product Except Dairy)
- AQIS Approval

VI. Performance Characteristics

ASTM D-1130 (Kauri-Butanol Value)	31
ASTM D-877 (Dielectric Strength)	40,000 Volts
Surface tension	21 Dynes/cm
Evaporation Rate	Fast
Residue	None

VII. Directions

- Always read the entire label before using product.
- Deactivate equipment before use. Flammable formulation
- Ventilate after use and before reactivating.
- Protect eyes, skin and do not inhale. Refer to MSDS.
- Do not use on energized equipment.
- Test on small area before using. May be harmful to some plastics.
- Spray liberally and allow to run off.
- Use extension tube for hard-to-reach areas.
- Safe on plastics.
- For personal safety, **DO NOT** use on equipment that is energized.
- Allow complete evaporation before reactivating equipment.
- When used on plugs and lubricated rotating, sliding or stepping contacts it is recommended to apply CRC 2.26 or CRC Contact Gold to replace the lubricant.

VIII. Disposal

Disposal requirements vary by state and local regulations. All used and unused product should be disposed of in conformance with local, state and commonwealth laws and regulations.

IX. Special Use Warnings

Aerosol Cans

Do not puncture, incinerate or store above 50^0C**.** Exposure to high temperatures may cause can to burst. Do not place in direct sunlight or near any heat source. Aerosol cans will conduct electricity. Keep away from all live electrical sources including battery terminals, solenoids, electrical panels and other electronic components. Failure to observe this warning may result in serious injury from flash fire and/or electrical shock.

General

Use only in well-ventilated area. Ventilation may be improved by opening a window or door or providing mechanical assistance. Avoid continuous breathing of vapour and spray mist. Avoid contact with the skin and eyes. If ventilation is not adequate, respiratory protection should be worn. For more information regarding short term and long term exposure, review this product's Material Safety Data Sheet.

PRODUCT WARRANTY: CRC offers a conditional warranty on this product for the period of 5 years from the date of manufacture.

SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name **CO CONTACT CLEANER (AEROSOL) (POST JUNE 2010)**

Synonym(s) 2015 - MANUFACTURER'S CODE • 2016 - MANUFACTURER'S CODE • CLEANERS - PRECISION ELECTRONIC • CRC 2015 • CRC 2015, 2016 CO CONTACT CLEANER (AEROSOL) • CRC 2016

1.2 Uses and uses advised against

Use(s) CLEANING AGENT • ELECTRICAL CLEANER

1.3 Details of the supplier of the product

Supplier name **CRC INDUSTRIES (AUST) PTY LIMITED**

Address 9 Gladstone Road, Castle Hill, NSW, 2154, AUSTRALIA

Telephone (02) 9849 6700

Fax (02) 9680 4914

Email info@crcind.com.au

Website www.crcindustries.com.au

1.4 Emergency telephone number(s)

Emergency 13 11 26 (PIC)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

GHS classification(s) Aerosols: Category 1
Specific Target Organ Systemic Toxicity (Single Exposure): Category 3

2.2 Label elements

Signal word **DANGER**

Pictogram(s)

Hazard statement(s)

H222	Extremely flammable aerosol.
H229	Pressurized container: may burst if heated.
H336	May cause drowsiness or dizziness.

Prevention statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Pressurized container: Do not pierce or burn, even after use.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.

Response statement(s)

P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.

Storage statement(s)

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C.

Disposal statement(s)

P501	Dispose of contents/container in accordance with relevant regulations.

2.3 Other hazards

No information provided.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
HYDROCARBONS C>=5, C5-6 RICH	68476-50-6	270-690-8	>60%
CARBON DIOXIDE (PROPELLANT)	124-38-9	204-696-9	1 to 10%
COZOL 404	-	-	1 to 5%

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, 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 an 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 a 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.

First aid facilities No information provided.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Highly flammable. May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition. Vapour may form explosive mixtures with air. Eliminate all ignition sources, including cigarettes, open flames, spark producing switches/tools, heaters, pilot lights, mobile phones, etc when handling. Aerosol cans may explode above 50°C.

5.3 Advice for firefighters

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. 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.

5.4 Hazchem code

2Y

2	Fine Water Spray.
Y	Risk of violent reaction or explosion. Wear full fire kit and breathing apparatus. Contain spill and run-off.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible.

6.2 Environmental precautions
Prevent product from entering drains and waterways.

6.3 Methods of cleaning up
Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

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 (< 50°C), dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure aerosol containers/ cans are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for damaged/ leaking containers. Large storage areas should have appropriate fire protection systems.

7.3 Specific end use(s)
No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters
Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m³	ppm	mg/m³
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, mechanical explosion proof extraction ventilation is recommended. Flammable vapours may accumulate in poorly ventilated or confined 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.

PPE

Eye / Face Wear splash-proof goggles.

Hands Wear nitrile or neoprene gloves.

Body Not required under normal conditions of use.

Respiratory At high vapour levels, wear a Type A-Class P1 (Organic gases/vapours and Particulate) respirator. Where the boiling point is < 65°C, use an AX filter type.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	CLEAR COLOURLESS LIQUID (AEROSOL DISPENSED)
Odour	LIGHT ETHEREAL ODOUR
Flammability	HIGHLY FLAMMABLE
Flash point	< 0°C
Boiling point	51°C
Melting point	NOT AVAILABLE
Evaporation rate	NOT AVAILABLE
pH	NOT AVAILABLE
Vapour density	NOT AVAILABLE
Specific gravity	0.69
Solubility (water)	INSOLUBLE
Vapour pressure	NOT AVAILABLE
Upper explosion limit	7.0 %
Lower explosion limit	1.0 %
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

Carefully review all information provided in sections 10.2 to 10.6.

10.2 Chemical stability

Stable under recommended conditions of storage.

10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), alkalis (e.g. sodium hydroxide), heat and ignition sources.

10.6 Hazardous decomposition products

May evolve carbon oxides and hydrocarbons when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Health hazard summary	May be harmful - irritant. This product may only have the potential to cause adverse health effects if intentionally misused (e.g. deliberately inhaling contents). Use safe work practices to avoid eye or skin contact and vapour generation - inhalation. Over exposure may result in central nervous system (CNS) effects.
Eye	Irritant. Contact may result in irritation, lacrimation, pain and redness.
Inhalation	Irritant. Over exposure may result in irritation of the nose and throat, coughing and headache. High level exposure may result in nausea, dizziness and drowsiness.
Skin	Irritant. Contact may result in drying and defatting of the skin, rash and dermatitis.
Ingestion	May be harmful. Ingestion may result in nausea, vomiting, abdominal pain and drowsiness with large quantities. Aspiration or inhalation may cause chemical pneumonitis and pulmonary oedema. Ingestion is considered unlikely due to product form.
Toxicity data	CARBON DIOXIDE (PROPELLANT) (124-38-9) LCLo (inhalation) 9 pph/5M (human)

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
No information provided.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

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/supplier for additional information (if required).

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	1950	1950	1950
14.2 Proper Shipping Name	AEROSOLS	AEROSOLS	AEROSOLS
14.3 Transport hazard class	2.1	2.1	2.1
14.4 Packing Group	None Allocated	None Allocated	None Allocated

14.5 Environmental hazards No information provided

14.6 Special precautions for user

Hazchem code 2Y

GTEPG 2D1

EMS F-D, S-U

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.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

Hazard codes	F+	Extremely flammable
	Xn	Harmful
Risk phrases	R12	Extremely Flammable.
	R67	Vapours may cause drowsiness and dizziness.
Safety phrases	S45	In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).
	S53	Avoid exposure - obtain special instructions before use.

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

16. OTHER INFORMATION

Additional information

AEROSOL CANS may explode at temperatures approaching 50°C.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

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
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/m³	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high 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

Revision history

Revision	Description
2.0	GHS classifications provided.

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.

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[End of SDS]

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ALLERGEN CERTIFICATE

Date: **July 15, 2015**

Product Number: **2016**

Product Name: **CRC CO CONTACT CLEANER**

The Australia New Zealand Food Safety Code requires the identification of allergens present in food products. The New Zealand Food Safety Authority identifies eight major food allergens. These allergens are Milk, Eggs, Fish, Crustacean Shellfish, Tree Nuts, Peanuts, Cereal, Gluten and Soybeans. The presence of allergens in food grade processing aids including lubricants must be declared.

CRC Industries provides the following allergen information for the product(s) listed above.

Allergen	Present in Product	Present on Same Production Line	Present in Facility
Milk Products	☐Yes / ☒No	☐Yes / ☒No	☐Yes / ☒No
Soy Products	☐Yes / ☒No	☐Yes / ☒No	☐Yes / ☒No
Peanut Products	☐Yes / ☒No	☐Yes / ☒No	☐Yes / ☒No
Egg Products	☐Yes / ☒No	☐Yes / ☒No	☐Yes / ☒No
Tree Nut Products	☐Yes / ☒No	☐Yes / ☒No	☐Yes / ☒No
Peanut Products	☐Yes / ☒No	☐Yes / ☒No	☐Yes / ☒No
Cereal or Gluten Products	☐Yes / ☒No	☐Yes / ☒No	☐Yes / ☒No
Fish Products	☐Yes / ☒No	☐Yes / ☒No	☐Yes / ☒No
Shellfish Products	☐Yes / ☒No	☐Yes / ☒No	☐Yes / ☒No

The products listed below are not formulated to contain components from animal derived products and are therefore BSE/TSE free.

This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate.

Kevin Main
Quality Manager