



# CHEMICAL PRODUCT SAFETY DATA SHEET

Prepared in accordance with GB/T 16483 and GB/T 17519.

## 1. Chemical product and company identification

<b>Product name</b>	<b>Contact Cleaner 2000® Precision Cleaner</b>
<b>Product code</b>	02140, PR02140
<b>Company name</b>	CRC Industries, Inc.
<b>Address</b>	885 Louis Dr. Warminster, PA 18974 US
<b>Telephone</b>	
<b>General Information</b>	1-215-674-4300
<b>Technical Assistance</b>	1-800-521-3168
<b>Customer Service</b>	1-800-272-4620
<b>24-Hour Emergency (CHEMTREC)</b>	+86 532 83889090 (China) 1-703-527-3887 (International)
<b>Website</b>	www.crcindustries.com

### Recommended use and Limitations on use

<b>Recommended use</b>	Precision electronics cleaner
<b>Issue date</b>	10-30-2014
<b>Supersedes date</b>	10-24-2014

## 2. Hazards identification

**Emergency overview** Flammable aerosol. Pressurized container may explode when exposed to heat or flame. Heat may cause the containers to explode. May be fatal if swallowed and enters airways. Harmful if swallowed. Causes serious eye irritation. Causes mild skin irritation. May cause drowsiness or dizziness. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### GHS-classification

<b>Physical hazards</b>	Aerosols	Category 2
<b>Health hazards</b>	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 3
	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Aspiration hazard	Category 1
<b>Environmental hazards</b>	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3
<b>Other hazards which do not result in classification</b>	Not classified.	

### Label elements

#### Pictograms



### GHS-labeling

#### Signal word

Danger

#### Hazard statement

Flammable aerosol. Pressurized container: May burst if heated. Harmful if swallowed. Causes mild skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. May be fatal if swallowed and enters airways. Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

**Precautionary statement**

<b>Prevention</b>	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Avoid breathing gas, mist or vapor. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wear eye/face protection. Avoid release to the environment.
<b>Response</b>	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. If skin irritation occurs: Get medical advice/attention.
<b>Storage</b>	Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Store in a well-ventilated place. Keep container tightly closed. Store locked up.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Physical and chemical hazards</b>	Flammable aerosol. Pressurized container: May burst if heated.
<b>Health hazards</b>	Harmful if swallowed. May be fatal if swallowed and enters airways. May cause drowsiness and dizziness. Causes serious eye irritation. Causes mild skin irritation.
<b>Environmental hazards</b>	Harmful to aquatic life with long lasting effects.
<b>Supplemental information</b>	When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen fluoride, hydrogen chloride and possibly phosgene.

**3. Composition/information on ingredients**

Substance/mixture	Mixture	CAS Number	Concentration (%)
COzol® 401		Proprietary	80 - 90
Carbon dioxide		124-38-9	5 - 10
Decafluoropentane		138495-42-8	5 - 10
Methanol		67-56-1	< 0.2

**4. First aid measures**

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. Call a POISON CENTER or doctor/physician. Do NOT give epinephrine (adrenaline).
<b>Skin contact</b>	Wash off with soap and water. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Call a physician or poison control center immediately. Do not induce vomiting. Never give anything by mouth to a victim who is unconscious or is having convulsions. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do NOT give stimulants. Immediately give 2 glasses of water. Aspiration may cause pulmonary edema and pneumonitis.
<b>Most important symptoms and health effects</b>	Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Mild skin irritation. May cause redness and pain.
<b>Expected acute symptoms and delayed symptoms</b>	Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Mild skin irritation. May cause redness and pain.
<b>Personal protection for first-aid responders</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.
<b>Notes to physician</b>	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.  Because of possible disturbances of cardiac rhythm, catecholamine drugs such as adrenaline should be used with special caution and only in situations of emergency life support.

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## 5. Fire-fighting measures

<b>Extinguishing media</b>	Powder. Water spray. Foam. Carbon dioxide (CO <sub>2</sub> ).
<b>Extinguishing media to avoid</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards</b>	Contents under pressure. Pressurized container may rupture when exposed to heat or flame. During fire, gases hazardous to health may be formed. When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen fluoride, hydrogen chloride and possibly phosgene.
<b>Special fire fighting procedures</b>	In case of fire: Stop leak if safe to do so. Containers should be cooled with water to prevent vapor pressure build up. In the event of fire, cool tanks with water spray.
<b>Protection of fire-fighters</b>	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
<b>General fire hazards</b>	Flammable aerosol.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials. Use water spray to cool unopened containers. In the event of fire and/or explosion do not breathe fumes.

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## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Avoid breathing gas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**For emergency responders** Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Use personal protection recommended in Section 8 of the SDS.

**Environmental precautions** Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases. Use appropriate containment to avoid environmental contamination.

**Clean-up methods and materials and containment measures** Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Use water spray to reduce vapors or divert vapor cloud drift. Isolate area until gas has dispersed. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS. Prevent entry into waterways, sewer, basements or confined areas.

**Prevention of secondary hazards** Not assigned.

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## 7. Handling and storage

**Handling** Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Do not re-use empty containers. Avoid breathing mist or vapor. Avoid breathing gas. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. When using, do not eat, drink or smoke. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Avoid release to the environment.

**Storage** Level 1 Aerosol.

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Exposure limits

#### China

Components	Type	Value
Carbon dioxide (CAS 124-38-9)	STEL	18000 mg/m <sup>3</sup>
	TWA	9000 mg/m <sup>3</sup>
Methanol (CAS 67-56-1)	STEL	50 mg/m <sup>3</sup>
	TWA	25 mg/m <sup>3</sup>
Trans-1,2-dichloroethylene (CAS 156-60-5)	TWA	800 mg/m <sup>3</sup>

### Biological limit values

#### ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Methanol (CAS 67-56-1)	15 mg/l	Methanol	Urine	*

\* - For sampling details, please see the source document.

### Exposure guidelines

#### China OELs: Skin designation

METHANOL (CAS 67-56-1)

Can be absorbed through the skin.

#### Control parameters

Follow standard monitoring procedures.

#### Engineering measures

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

### Personal protective equipment

#### Respiratory protection

If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.

#### Hand protection

Wear protective gloves such as: Nitrile. Neoprene. Viton®. Polyvinyl alcohol (PVA).

#### Eye protection

Wear safety glasses with side shields (or goggles).

#### Skin and body protection

Wear suitable protective clothing. Use of an impervious apron is recommended.

### Hygiene measures

When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

### Appearance

Physical state	Liquid.
Form	Aerosol.
Color	Clear. Colorless.

Odor Slight ethereal.

pH Not available.

Melting point/freezing point -157 °F (-105 °C) estimated

Boiling point, initial boiling point, and boiling range 104.2 °F (40.1 °C) estimated

Flash point None (Tag Closed Cup)

Flammability limit - lower (%) 2 % estimated

Flammability limit - upper (%) 19.9 % estimated

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure 3294.4 hPa estimated

Vapor density > 1 (air = 1)

<b>Relative density</b>	1.27 estimated
<b>Density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Slight.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	500 °F (260 °C) estimated
<b>Decomposition temperature</b>	Not available.
<b>Evaporation rate</b>	Fast.

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Contact with incompatible materials. Heat, flames and sparks. When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen fluoride, hydrogen chloride and possibly phosgene.
<b>Incompatible materials</b>	Strong acids. Strong oxidizing agents. Alkaline earth metals. Alkali metals. Powdered metal. Caustics. Strong bases.
<b>Hazardous decomposition products</b>	Carbonyl halides. Hydrogen fluoride. Hydrogen chloride. Phosgene. Formaldehyde. Carbon oxides.

## 11. Toxicological information

<b>Acute toxicity</b>	Harmful if swallowed. In high concentrations, vapors are anesthetic and may cause headache, fatigue, dizziness and central nervous system effects. May be fatal if swallowed and enters airways.
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Product	Species	Test Results
Contact Cleaner 2000® Precision Cleaner		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	7614.0439 mg/kg estimated
<i>Inhalation</i>		
LC50	Rat	42726.0469 ppm, 4 hours estimated 146.7171 mg/l, 4 hours estimated
<i>Oral</i>		
LD50	Rat	1649.6842 mg/kg estimated
<b>Chronic</b>		
<i>Inhalation</i>		
NOEL	Rat	7274.0498 ppm, 90 days estimated

\* Estimates for product may be based on additional component data not shown.

<b>Routes of exposure</b>	Inhalation. Ingestion. Skin contact. Eye contact.
<b>Symptoms</b>	Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Mild skin irritation. May cause redness and pain.
<b>Skin corrosion/irritation</b>	Causes mild skin irritation.
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation.
<b>Respiratory sensitization</b>	Not available.
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

<b>Toxic to reproduction</b>	This product is not expected to cause reproductive or developmental effects.
<b>Specific target organ toxicity following single exposure</b>	May cause drowsiness or dizziness.
<b>Specific target organ toxicity following repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	May be fatal if swallowed and enters airways. If aspirated into lungs during swallowing or vomiting, may cause chemical pneumonia, pulmonary injury or death.
<b>Chronic effects</b>	Prolonged inhalation may be harmful.

## 12. Ecological information

### Ecotoxicological data

Components	Species	Test Results
Decafluoropentane (CAS 138495-42-8)		
<b>Aquatic</b>		
<i>Acute</i>		
Crustacea	EC50	Water flea (Daphnia magna) 11.7 mg/l, 48 hours
Fish	LC50	Zebra danio (Danio rerio) 13 mg/l, 96 hours
Methanol (CAS 67-56-1)		
<b>Aquatic</b>		
Crustacea	EC50	Water flea (Daphnia magna) > 10000 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) > 100 mg/l, 96 hours

None known.

<b>Ecotoxicity</b>	Harmful to aquatic life with long lasting effects.
<b>Persistence and degradability</b>	No data is available on the degradability of this product.
<b>Bioaccumulation</b>	No data available.
<b>Bioaccumulative potential</b>	
<b>Octanol/water partition coefficient log Kow</b>	
Decafluoropentane	2.7, Pow at 20 °C
Methanol	-0.77
<b>Mobility in soil</b>	This product is miscible in water.
<b>Other hazardous effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. Disposal considerations

<b>Residual waste</b>	Dispose of in accordance with local regulations.
<b>Contaminated packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.
<b>Recommended methods for final destination</b>	
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

## 14. Transport information

### CNDG

<b>UN number</b>	UN1950
<b>UN proper shipping name</b>	AEROSOLS
<b>Transport hazard class(es)</b>	
<b>Class</b>	2
<b>Subsidiary risk</b>	-
<b>Packing group</b>	-

Read safety instructions, SDS and emergency procedures before handling.

### IATA

<b>UN number</b>	UN1950
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<b>UN proper shipping name</b>	Aerosols, flammable, Limited Quantity
<b>Transport hazard class(es)</b>	
<b>Class</b>	2.1
<b>Subsidiary risk</b>	-
<b>Packing group</b>	Not applicable.
<b>Environmental hazards</b>	No.
<b>ERG Code</b>	10L
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Other information</b>	
<b>Passenger and cargo aircraft</b>	Allowed.
<b>Cargo aircraft only</b>	Allowed.

**IMDG**

<b>UN number</b>	UN1950
<b>UN proper shipping name</b>	AEROSOLS, LIMITED QUANTITY
<b>Transport hazard class(es)</b>	
<b>Class</b>	2
<b>Subsidiary risk</b>	-
<b>Packing group</b>	Not applicable.
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>EmS</b>	Not available.
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not established.

**CNDG; IATA; IMDG**



## 15. Regulatory information

### International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**Applicable regulations**

This safety data sheet conforms to the following laws, regulations and standards:  
Regulations on the Control over Safety of Dangerous Chemicals  
Regulations on Labor Protection in Workplaces Where Toxic Products Are Used  
Measures for the Safe Use of Chemicals in Workplaces  
Safety Data Sheet for Chemical Products - Content and Order of Sections (GB/T 16483-2008)  
General Rules for Preparation of Precautionary Labels for Chemicals (GB15258-2009 )  
Packing Symbol of Dangerous Goods(GB190-2009)  
Packing - Pictorial Marking for Handling of Goods (GB/T191-2009)

**General Rule For Classification and Hazard Communication of Chemicals (GB 13690-2009) and Dangerous Chemical Products**

Carbon dioxide (CAS 124-38-9)

Methanol (CAS 67-56-1)

**Occupational exposure limits for hazardous agents in the workplace (GBZ 2.1-2007)**

Carbon dioxide (CAS 124-38-9)

Methanol (CAS 67-56-1)

Trans-1,2-dichloroethylene (CAS 156-60-5)

**Restricted Import/Export Toxic Chemical List (MEP and GCA Announcement No. 2008-66, Dec. 1, 2008, amended through MEP and Customs Notice No. 2011-91, December 28, 2011)**

Not regulated.

**Classification and code of dangerous goods (GB6944-2005)**

Regulated.

**List of Dangerous Goods (GB 12268-2005)**

Regulated.

**The Principle of Classification of Transport Packaging Groups of Dangerous Goods (GB/T15098-2008)**

Regulated.

**General Specifications for Transport Packages of Dangerous Goods (GB 12463-2009)**

Regulated.

**Regulations on Road Transport of Dangerous Goods**

Regulated.

**Regulations on Rail Road Transport of Dangerous Goods**

Regulated.

**UN Recommendations on the Transport of Dangerous Goods (UN RTDG)**

Regulated.

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**16. Other information****References**

EPA: AQUIRE database

NLM: Hazardous Substances Data Base

US. IARC Monographs on Occupational Exposures to Chemical Agents

**Further information**

CRC # 657B

**Disclaimer**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries.