



# MATERIAL SAFETY DATA SHEET

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## Section 1: Product & Company Identification

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**Product Name:** CO® Contact Cleaner (bulk)

**Product Number (s):** 02017, 02077

**Product Use:** Precision Electronics Cleaning

### Manufacturer / Supplier Contact Information:

In United States:

CRC Industries, Inc.

885 Louis Drive

Warminster, PA 18974

[www.crcindustries.com](http://www.crcindustries.com)

1-215-674-4300 (General)

(800) 521-3168 (Technical)

(800) 272-4620 (Customer Service)

In Canada:

CRC Canada Co.

2-1246 Lorimar Drive

Mississauga, Ontario L5S 1R2

[www.crc-canada.ca](http://www.crc-canada.ca)

1-905-670-2291

In Mexico:

CRC Industries Mexico

Av. Benito Juárez 4055 G

Colonia Orquídea

San Luís Potosí, SLP CP 78394

[www.crc-mexico.com](http://www.crc-mexico.com)

52-444-824-1666

24-Hr Emergency – CHEMTREC: (800) 424-9300 or (703) 527-3887

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## Section 2: Hazards Identification

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### Emergency Overview

As defined by OSHA's Hazard Communication Standard, this product is hazardous.  
Appearance & Odor: Colorless volatile liquid with ethereal and faint sweetish odor

### Potential Health Effects:

#### ACUTE EFFECTS:

**EYE:** May cause eye irritation with tearing, pain or blurred vision.

**SKIN:** Immediate effects may include irritation, itching, redness, and swelling. Prolonged or repeated contact can cause defatting of the skin, with redness and rash.

**INHALATION:** Overexposure to vapor may cause dizziness, loss of concentration and irritation. With high exposure levels, effects can include central nervous system (CNS) depression and cardiac arrhythmia. Product vapors displace air and can cause suffocation especially in a confined space.

**INGESTION:** The major hazard is aspiration of the liquid into the lungs during swallowing or vomiting. This may result in chemical pneumonia. Symptoms include coughing, gasping, shortness of breath, bluish discoloration of the skin, and fever. Pulmonary edema, confusion, coma and seizures may occur in more serious cases.

**CHRONIC EFFECTS:** None identified

**TARGET ORGANS:** None identified

**Medical Conditions Aggravated by Exposure:** pre-existing disease of the central nervous system or cardiovascular system

See Section 11 for toxicology and carcinogenicity information on product ingredients.

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### Section 3: Composition/Information on Ingredients

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COMPONENT	CAS NUMBER	% by Wt.
Decafluoropentane (HFC-43-10mee)	138495-42-8	95 - 100

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### Section 4: First Aid Measures

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- Eye Contact: Immediately flush with plenty of water for 15 minutes. Call a physician if irritation persists.
- Skin Contact: Remove contaminated clothing and wash affected area with soap and water. Call a physician if irritation persists. Wash contaminated clothing prior to re-use.
- Inhalation: Remove person to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Do NOT give epinephrine (adrenaline). Call a physician.
- Ingestion: Do NOT induce vomiting unless instructed to do so by a physician. Immediately give 2 glasses of water. Do NOT give stimulants. Get medical attention immediately.
- Note to Physicians:* 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. Treatment of overexposure should be directed at the control of symptoms and the clinical conditions.

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### Section 5: Fire-Fighting Measures

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**Flammable Properties:** As defined by OSHA, this product is nonflammable.

Flash Point: None	Upper Explosive Limit: None
Autoignition Temperature: ND	Lower Explosive Limit: None

**Fire and Explosion Data:**

- Suitable Extinguishing Media: Choose an extinguishing agent appropriate for the surrounding fire.
- Products of Combustion: Product will decompose at high temperatures. Decomposition products include hydrofluoric acid and carbonyl halides, such as phosgene.
- Explosion Hazards: Containers, when exposed to heat from fire, may build pressure and rupture.
- Protection of Fire-Fighters: Firefighters should wear self-contained, NIOSH-approved breathing apparatus for protection against suffocation and possible toxic decomposition products. Proper eye and skin protection should be provided. Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition.

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### Section 6: Accidental Release Measures

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- Personal Precautions: Use personal protection recommended in Section 8. Avoiding inhaling vapors.
- Environmental Precautions: Take precautions to prevent contamination of ground and surface waters. Do not flush into sewers or storm drains.
- Methods for Containment & Clean-up: Dike area to contain spill. Ventilate the area with fresh air. If in confined space or limited air circulation area, clean-up workers should wear appropriate respiratory protection. Recover or absorb spilled material using an absorbent designed for chemical spills. Place used absorbents into proper waste containers.

## **Section 7: Handling and Storage**

**Handling Procedures:** Minimize vapor accumulation by providing air circulation. Avoid breathing vapors or mist. Wear eye protection. Wash thoroughly after handling. For product use instructions, please see the product label.

**Storage Procedures:** Store in a cool dry area out of direct sunlight. Do not allow stored product to exceed 125°F to prevent leakage or potential rupture of container from pressure and expansion. Protect from freezing temperatures. If stored below 14°F, mix prior to use. Containers should be tightly closed while in storage.

**Aerosol Storage Level:** NA

## **Section 8: Exposure Controls/Personal Protection**

**Exposure Guidelines:**

COMPONENT	OSHA		ACGIH		OTHER		UNIT
	TWA	STEL	TWA	STEL	TWA	SOURCE	
Decafluoropentane	NE	NE	NE	NE	200	mfr	ppm
N.E. – Not Established		(c) – ceiling	(s) – skin	(v) – vacated			

mfr – manufacturer’s recommendation

**Controls and Protection:**

**Engineering Controls:** Area should have ventilation to provide fresh air. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at the source, preventing dispersion into the general work area. Use mechanical means if necessary to maintain vapor levels below the exposure guidelines. If working in a confined space, follow applicable OSHA regulations.

**Respiratory Protection:** None required for normal work where adequate ventilation is provided. If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with organic vapor cartridge. Air monitoring is needed to determine actual employee exposure levels. Use a self-contained breathing apparatus in confined spaces and for emergencies.

**Eye/face Protection:** For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

**Skin Protection:** Use protective gloves such as nitrile, PVA or neoprene. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

## **Section 9: Physical and Chemical Properties**

**Physical State:** liquid  
**Color:** clear, colorless  
**Odor:** ethereal and sweetish odor  
**Odor Threshold:** ND  
**Specific Gravity:** 1.58  
**Initial Boiling Point:** 131 F  
**Freezing Point:** ND  
**Vapor Pressure:** 226 mmHg @ 77 F  
**Vapor Density:** > 1 (air = 1)  
**Evaporation Rate:** very fast  
**Solubility:** 140 ppm (water)

Coefficient of water/oil distribution: ND

pH: NA

Volatile Organic Compounds:	Federal:	<u>wt %:</u> 0	<u>g/L:</u> 0	<u>lbs./gal:</u> 0
	CARB:	<u>wt %:</u> 100	<u>g/L:</u> 1580	<u>lbs./gal:</u> 13.5

**Section 10: Stability and Reactivity**

Stability: Stable

Conditions to Avoid: Avoid temperature extremes. Exposure of this product to high energy sources may yield toxic and/or corrosive decomposition products.

Incompatible Materials: Alkali or alkaline earth metals such as powdered or freshly abraded aluminum, sodium, magnesium, zinc, beryllium, etc.; strong bases such as sodium hydroxide, potassium hydroxide, etc.

Hazardous Decomposition Products: Hydrofluoric acids and carbonyl halides, such as phosgene. Decafluoropentane is incompatible with strong bases and can react to form salts of hydrofluoric acid.

Possibility of Hazardous Reactions: No

**Section 11: Toxicological Information**

Long-term toxicological studies have not been conducted for this product. The following information is available for components of this product.

**Acute Toxicity:**

<u>Component</u>	<u>Oral LD50 (rat)</u>	<u>Dermal LD50 (rabbit)</u>	<u>Inhalation LC50 (rat)</u>
Decafluoropentane	> 5 mg/kg	> 5 mg/kg	11,100 ppm/4H

**Chronic Toxicity:**

<u>Component</u>	<u>OSHA Carcinogen</u>	<u>IARC Carcinogen</u>	<u>NTP Carcinogen</u>	<u>Irritant</u>	<u>Sensitizer</u>
Decafluoropentane	No	No	No	E (mild) / S (mild)	No

E – Eye	S – Skin	R - Respiratory
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Reproductive Toxicity: No information available.Teratogenicity: No information available.Mutagenicity: No information available.Synergistic Effects: No information available.**Section 12: Ecological Information**

Ecological studies have not been conducted for this product. The following information is available for components of this product.

Ecotoxicity: Decafluoropentane – daphnia magna: 11.7 mg/L  
fathead minnow: 27.2 mg/L

Persistence / Degradability: No information available.

Bioaccumulation / Accumulation: No information available.

Mobility in Environment: No information available.

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## **Section 13: Disposal Considerations**

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**Waste Classification:** This product is not a RCRA hazardous waste. (See 40 CFR Part 261.20 – 261.33)  
Empty containers may be recycled.

All disposal activities must comply with federal, state, provincial and local regulations. Local regulations may be more stringent than state, provincial or national requirements.

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## **Section 14: Transport Information**

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US DOT (ground): Not Regulated

ICAO/IATA (air): Not Regulated

IMO/IMDG (water): Not Regulated

Special Provisions: None

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## **Section 15: Regulatory Information**

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### **U.S. Federal Regulations:**

#### Toxic Substances Control Act (TSCA):

All ingredients are either listed on the TSCA inventory or are exempt.

#### Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):

Reportable Quantities (RQ's) exist for the following ingredients: None

**Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.**

#### Superfund Amendments Reauthorization Act (SARA) Title III:

Section 302 Extremely Hazardous Substances (EHS): None

Section 311/312 Hazard Categories:	Fire Hazard	No
	Reactive Hazard	No
	Release of Pressure	No
	Acute Health Hazard	Yes
	Chronic Health Hazard	No

Section 313 Toxic Chemicals: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:  
None

#### Clean Air Act:

Section 112 Hazardous Air Pollutants (HAPs): None

### **U.S. State Regulations:**

#### California Safe Drinking Water and Toxic Enforcement Act (Prop 65):

This product may contain the following chemicals known to the state of California to cause cancer, birth defects or other reproductive harm: None

Consumer Products VOC Regulations: This product cannot be sold for use in California. In other states with Consumer Products VOC regulations, this product is compliant as an Electronic Cleaner.

State Right to Know:

New Jersey: None  
Pennsylvania: None  
Massachusetts: None  
Rhode Island : None

**Canadian Regulations:**

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

WHMIS Hazard Class: D2B

**European Union Regulations:**

RoHS Compliance: This product is compliant with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003. This product does not contain any of the restricted substances as listed in Article 4(1) of the RoHS Directive.

**Additional Regulatory Information:** None

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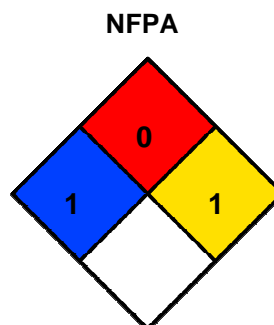
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**Section 16: Other Information**

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HMIS® (II)	
Health:	1
Flammability:	0
Reactivity:	1
PPE:	B



Ratings range from 0 (no hazard) to 4 (severe hazard)

Prepared By: Michelle Rudnick  
CRC #: 508D  
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Changes since last revision: Section 15: Consumer Products VOC Regulations revised

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 MSDS consult your supervisor, a health & safety professional, or CRC Industries.

ACGIH: American Conference of Governmental Industrial Hygienists  
CAS: Chemical Abstract Service  
CFR: Code of Federal Regulations  
DOT: Department of Transportation  
DSL: Domestic Substance List  
g/L: grams per Liter  
HMIS: Hazardous Materials Identification System  
IARC: International Agency for Research on Cancer  
IATA: International Air Transport Association  
ICAO: International Civil Aviation Organization  
IMDG: International Maritime Dangerous Goods  
IMO: International Maritime Organization  
lbs./gal: pounds per gallon  
LC: Lethal Concentration  
LD: Lethal Dose

NA: Not Applicable  
ND: Not Determined  
NIOSH: National Institute of Occupational Safety & Health  
NFPA: National Fire Protection Association  
NTP: National Toxicology Program  
OSHA: Occupational Safety and Health Administration  
PMCC: Pensky-Martens Closed Cup  
PPE: Personal Protection Equipment  
ppm: Parts per Million  
RoHS: Restriction of Hazardous Substances  
STEL: Short Term Exposure Limit  
TCC: Tag Closed Cup  
TWA: Time Weighted Average  
WHMIS: Workplace Hazardous Materials Information System