



SAFETY DATA SHEET

1. Identification

Product identifier	CO® Contact Cleaner - 396 g
Other means of identification	
Product Code	No. 72016 (Item# 1006114)
Recommended use	Precision electronics cleaner
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufactured or sold by:	
Company name	CRC Canada Co.
Address	83 Galaxy Blvd Unit 35 - 37 Toronto, ON M9W 5X6 Canada
Telephone	
General Information	416-847-7750
Technical Assistance	800-521-3168
24-Hour Emergency (CHEMTREC)	800-424-9300 (Canada)
Website	crc-canada.ca

2. Hazard identification

Physical hazards	Gases under pressure	Liquefied gas
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
Environmental hazards	Not classified.	
Label elements		



Signal word	Warning
Hazard statement	Contains gas under pressure; may explode if heated. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.
Precautionary statement	
Prevention	Avoid breathing mist/vapors. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Wear eye protection/face protection. Wear protective gloves.
Response	IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor 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 advice/attention.
Storage	Protect from sunlight. Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Supplemental information	When exposed to extreme heat or hot surfaces, vapors may decompose to toxic gases such as hydrogen fluoride.
Other hazards	None known.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
1,1,1,2-tetrafluoroethane	HFC-134A	811-97-2	45 - 70
1,1,2,2-tetrafluoro-1-(2,2,2-trifluoroethoxy) ethane	HFE-347PCF2	406-78-0	45 - 70

The exact percentage (concentration) of composition has been withheld as a trade secret.

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	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.
Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	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.
Ingestion	Not likely, due to the form of the product. In the unlikely event of swallowing contact a physician or poison control center. Rinse mouth.
Most important symptoms/effects, acute and delayed	May cause drowsiness or dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	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 toxic gases such as hydrogen fluoride.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Contents under pressure. Pressurized container may explode when exposed to heat or flame.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist/vapors. Emergency personnel need self-contained breathing equipment. 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.
Methods and materials for containment and cleaning up	Stop leak if you can do so without risk. Isolate area until gas has dispersed. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. The product is immiscible with water and will sediment in water systems. 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.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe 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. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. Do not re-use empty containers. Avoid breathing mist/vapors. Avoid contact with eyes, skin, and clothing. Wash hands thoroughly after handling. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Level 1 Aerosol.

Contents under pressure. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Store in tightly closed container. Store in a well-ventilated place. Stored containers should be periodically checked for general condition and leakage. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

Manufacturer OEL Components	Type	Value
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1,1,1,2-tetrafluoro-1-(2,2,2-trifluoroethoxy) ethane (CAS 406-78-0)	TWA	50 ppm
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Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation 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 and safety shower.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection

Wear protective gloves such as: Nitrile. Fluoroelastomer.

Other

Wear appropriate chemical resistant clothing.

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.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using do not smoke. 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

Colorless.

Odor

Ethereal.

Odor threshold

Not available.

pH

Not available.

Melting point/freezing point

-137.2 °F (-94 °C) estimated

Initial boiling point and boiling range

132.8 °F (56 °C) estimated

Flash point

None (Setaflash)

Evaporation rate

Very fast.

Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not applicable.
Explosive limit - upper (%)	Not applicable.
Vapor pressure	3459 hPa estimated
Vapor density	Not available.
Relative density	1.36 estimated
Solubility(ies)	
Solubility (water)	Insoluble.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	1094 °F (590 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Percent volatile	100 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Heat. Contact with incompatible materials. When exposed to extreme heat or hot surfaces, vapors may decompose to toxic gases such as hydrogen fluoride.
Incompatible materials	Strong oxidizing agents. Alkali metals. Alkaline earth metals.
Hazardous decomposition products	Halogenated materials. Hydrogen fluoride. Carbon oxides. Carbonyl halides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause drowsiness or dizziness. Headache. Nausea, vomiting. May cause irritation to the respiratory system.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Based on available data, the classification criteria are not met.

Symptoms related to the physical, chemical and toxicological characteristics May cause drowsiness or dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity	Not classified.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	May cause respiratory irritation. May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.	
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.	
Bioaccumulative potential	No data available.	
	Partition coefficient n-octanol / water (log Kow)	
	1,1,1,2-tetrafluoroethane	1.68
	1,1,2,2-tetrafluoro-1-(2,2,2-trifluoroethoxy) ethane	2.18
Mobility in soil	No data available.	
Other adverse effects	Not established.	

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

14. Transport information

TDG

UN number	UN1950
UN proper shipping name	AEROSOLS, non-flammable, Limited Quantity
Transport hazard class(es)	
Class	2.2
Subsidiary risk	-
Packing group	Not assigned.
Environmental hazards	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

UN number	UN1950
UN proper shipping name	Aerosols, non-flammable, Limited Quantity
Transport hazard class(es)	
Class	2.2
Subsidiary risk	-
Packing group	-
ERG Code	2L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

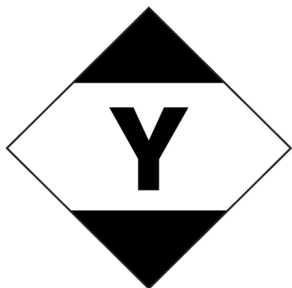
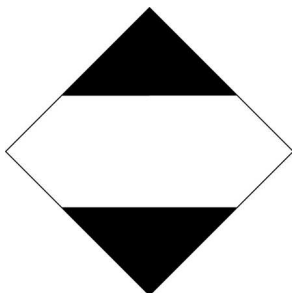
UN number	UN1950
UN proper shipping name	AEROSOLS, Limited Quantity
Transport hazard class(es)	
Class	2.2
Subsidiary risk	-
Packing group	-

Environmental hazards**Marine pollutant**

No.

EmS

F-D, S-U

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.**IATA****IMDG; TDG**

15. Regulatory information
Canadian regulations

This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Canada. Excluded VOCs. Guidelines for Volatile Organic Compounds in Consumer Products. CEPA 1999. Environment Canada, as amended

1,1,1,2-tetrafluoroethane (CAS 811-97-2)

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

1,1,1,2-tetrafluoroethane (CAS 811-97-2)

Precursor Control Regulations

Not regulated.

International regulations**Stockholm Convention**

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

1,1,1,2-tetrafluoroethane (CAS 811-97-2)

Listed.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories**Country(s) or region****Inventory name****On inventory (yes/no)***

Australia	Australian Inventory of Industrial Chemicals (AICIS)	No
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

Country(s) or region	Inventory name	On inventory (yes/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)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
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).

16. Other information

Issue date	08-23-2019
Revision date	07-14-2022
Version #	02
Further information	CRC # 1753488
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Revision information	This document has undergone significant changes and should be reviewed in its entirety.