



# Material Safety Data Sheet

## Section 1: Product & Company Identification

**Product Name:** Electro Clean LD™ (aerosol)

**Product Number (s):** 04015

**Manufactured By:**

CRC Industries, Inc.  
885 Louis Drive  
Warminster, PA 18974  
[www.crcindustries.com](http://www.crcindustries.com)

General Information	(215) 674-4300
Technical Assistance	(800) 521-3168
Customer Service	(800) 272-4620
24-Hr Emergency (CHEMTREC)	(800) 424-9300

## Section 2: Hazards Identification

### Emergency Overview

Appearance & Odor: clear, colorless liquid with slight ethereal odor

### WARNING

Vapor harmful. Contents under pressure.

As defined by OSHA's Hazard Communication Standard, this product is hazardous.

### Potential Health Effects:

**EYE:** May cause mild eye irritation. Not an eye irritant.

**SKIN:** May cause mild skin irritation. Not a skin irritant.

**INHALATION:** Inhalation of high concentrations of vapor is harmful and may cause hepatitis, heart irregularities, unconsciousness, or death. Intentional misuse can be fatal. Vapor reduces oxygen available for breathing and is heavier than air.

**INGESTION:** Low oral toxicity. Swallowing of small amounts is not expected to cause health effects. May be hazardous if aspirated into lungs.

**CHRONIC EFFECTS:** Unknown.

**TARGET ORGANS:** HCFC-225ca/cb produced liver effects in some animal studies.

Medical Conditions Aggravated by Exposure:

Unknown

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

**Section 3: Composition/Information on Ingredients**

COMPONENT	CAS NUMBER	% by Wt.
Dichloropentafluoropropane (HCFC-225ca)	422-56-0	20 - 40
Dichloropentafluoropropane (HCFC-225cb)	507-55-1	25 - 45
COzol® 101	proprietary	0 - 3
COzol® 102	proprietary	0 - 3
1,1,1,2-Tetrafluoroethane (HFC-134a)	811-97-2	30 - 40

**Section 4: First Aid Measures**

**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. Call a physician.

**Ingestion:** No specific intervention is indicated due to low oral toxicity. Consult a physician if necessary. Do not induce vomiting because the hazard of aspirating the material into the lungs is considered greater than swallowing it.

*Note to Physicians:* Treat symptomatically.

**Section 5: Fire-Fighting Measures**

**Flammable Properties:** This product is nonflammable in accordance with aerosol flammability definitions (16 CFR 1500.3(c)(6) ).

Flash Point:	None (TCC)	Upper Explosive Limit:	None
Autoignition Temperature:	ND	Lower Explosive Limit:	None

**Suitable Extinguishing Media:** As appropriate for the combustibles in the area

**Products of Combustion:** At temperatures above 570 F, this product can decompose to form hydrogen fluoride (HF), but HF will only accumulate with continuous exposure to excessive heat in a sealed vessel.

**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. Containers may rupture under fire conditions.

**Section 6: Accidental Release Measures**

Personal Precautions: Use personal protection recommended in Section 8. Avoid 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: Provide adequate ventilation for storage, handling and use, especially for enclosed or low spaces. Do not allow product to contact open flame or electrical heating elements because dangerous decomposition products may form.

Storage Procedures: Store in a cool, dry, well-ventilated area out of direct sunlight. Aerosol cans must be maintained below 120 F to prevent cans from rupturing.

Aerosol Storage Level: I

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

Exposure Guidelines:

COMPONENT	OSHA		ACGIH		OTHER		UNIT
	TWA	STEL	TWA	STEL	TWA	SOURCE	
HCFC-225ca	NE	NE	NE	NE	50	*mfg	ppm
HCFC-225cb	NE	NE	NE	NE	400	*mfg	ppm
COzol® 101	NE	NE	NE	NE	200	*mfg	ppm
COzol® 102	NE	NE	NE	NE	750	AIHA	ppm
1,1,1,2-Tetrafluoroethane (HFC-134a)	NE	NE	NE	NE	1000	AIHA	ppm
N.E. – Not Established      (c) – ceiling      (s) – skin      (v) – vacated							

\* manufacturer's exposure limit

Engineering Controls: Area should have ventilation to provide fresh air. Use local exhaust to prevent accumulation of vapors. 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. Use a NIOSH-approved cartridge respirator with organic vapor cartridge if vapors exceed exposure limits. 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 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: slight ethereal

Specific Gravity: 1.565

Initial Boiling Point: 129 F

Freezing Point: -203 F

Vapor Pressure: 0.038 MPa @ 77 F

Vapor Density: 7.0 (air = 1)

Evaporation Rate: 0.9 (ether = 1)

Solubility: 0.033g/100g water @ 77 F

pH: NA

Volatile Organic Compounds:	Federal:	<u>wt %:</u> 0	<u>g/L:</u> 0	<u>lbs./gal:</u> 0
	CARB:	<u>wt %:</u> 65.2	<u>g/L:</u> 1020.4	<u>lbs./gal:</u> 8.5

**Section 10: Stability and Reactivity**

Stability: Stable

Conditions to Avoid: Avoid open flames and high temperature.

Incompatible Materials: Alkali or alkaline earth metals such as powdered aluminum, zinc, beryllium, etc.

Hazardous Decomposition Products: This compound can be decomposed by high temperature (open flames, glowing metal surfaces, etc.) forming hydrochloric and hydrofluoric acids, possibly carbonyl halides.

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 EFFECTS**

<u>Component</u>	<u>Test</u>	<u>Result</u>	<u>Route</u>	<u>Species</u>
HCFC-225ca	LC50	37,300 ppm/4H	Inhalation	Rat
HCFC-225cb	LC50	36,800 ppm/4H	Inhalation	Rat
HCFC-225ca or cb	LD50	> 5 g/kg	Oral	Rat
HCFC-225ca or cb	LD50	> 2 g/kg	Dermal	Rabbit

**CHRONIC EFFECTS**

Carcinogenicity:

	<u>Component</u>	<u>Result</u>
OSHA:	None listed	
IARC:	None listed	
NTP:	None listed	

Mutagenicity: HCFC-225ca & cb These compounds do not produce genetic damage in bacterial

cell cultures (Ames Assay) or CHL.

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**Section 12: Ecological Information**

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

Ecotoxicity: No information available.  
Persistence / Degradability: No information available.  
Bioaccumulation / Accumulation: No information available.  
Mobility in Environment: No information available.

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**Section 13: Disposal Considerations**

Disposal: The dispensed product is not a RCRA hazardous waste. (See 40 CFR Part 261.20 – 261.33) Aerosol containers should be emptied and depressurized before disposal. Empty containers may be recycled.

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

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**Section 14: Transport Information**

Proper shipping description:

US DOT (ground): Aerosols, non-flammable, 2.2, UN1950

Special Provisions: Can be shipped as a limited quantity

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**Section 15: Regulatory Information**

**U.S. Federal**

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 Yes  
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:  
 HCFC-225ca (<40%), HCFC-225cb (<45%)

Clean Air Act:

Section 112 Hazardous Air Pollutants (HAPs): None

**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

State Right to Know:

New Jersey: 422-56-0, 507-55-1  
 Pennsylvania: None  
 Massachusetts: None  
 Rhode Island : None

**Additional Regulatory Information:** HCFC-225ca/cb is a Class II Ozone Depleting Substance subject to use and sales restrictions. See 40 CFR Part 82.70 for a description of the acceptable uses for this product.

**Section 16: Other Information**

NFPA:	Health: 2	Flammability: 0	Reactivity: 0	
HMIS:	Health: 2	Flammability: 0	Reactivity: 0	PPE: B

Prepared By: Michelle Rudnick  
 CRC #: 413B-C  
 Revision Date: 8/29/2006

Changes since last revision: MSDS reformatted in accordance with ANSI Z400.1-2004

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.

CAS:	Chemical Abstract Service	NA:	Not Applicable
ppm:	Parts per Million	ND:	Not Determined
TCC:	Tag Closed Cup	NE:	Not Established
PMCC:	Pensky-Martens Closed Cup	g/L:	grams per Liter
PPE:	Personal Protection Equipment	lbs./gal:	pounds per gallon
TWA:	Time Weighted Average	STEL:	Short Term Exposure Limit
OSHA:	Occupational Safety and Health Administration	AIHA:	American Industrial Hygiene Association
NIOSH	National Institute of Occupational Safety & Health	CARB:	California Air Resources Board
ACGIH	American Conference of Governmental Industrial Hygienists		