



MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: T-Force® Degreaser (aerosol)

Product Number (s): 03115

Product Use: General purpose degreaser

Manufacturer / Supplier Contact Information:

In United States:

CRC Industries, Inc.

885 Louis Drive

Warminster, PA 18974

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

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

52-444-824-1666

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

Section 2: Hazards Identification

Emergency Overview

WARNING: Vapor Harmful. Harmful if Swallowed. May Cause Eye Irritation. Contents Under Pressure.
As defined by OSHA's Hazard Communication Standard, this product is hazardous.

Appearance & Odor: Clear, colorless liquid with a faint ethereal odor

Potential Health Effects:

ACUTE EFFECTS:

EYE: May cause moderate to severe eye irritation with tearing, pain or blurred vision.

SKIN: Immediate effects may include mild to moderate 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 coordination, nausea, headache, and irritation of the respiratory tract. With high exposure levels, effects can include central nervous system (CNS) depression, unconsciousness, and cardiac arrhythmia. Product vapors displace air and can cause suffocation especially in a confined space.

INGESTION: Swallowing may irritate the mouth and gastro-intestinal tract. 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: disease of the central nervous system or cardiovascular system

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

Section 3: Composition/Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
Decafluoropentane (HFC-43-10mee)	138495-42-8	5 - 15
COzol® 207	proprietary blend	35 - 45
1,1,1,2-Tetrafluoroethane (HFC-134a)	811-97-2	45 - 50
Carbon dioxide	124-38-9	2 - 5

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. Do NOT give epinephrine (adrenaline). Call a physician.
- Ingestion:** Do NOT induce vomiting. 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.

Section 5: Fire-Fighting Measures

- Flammable Properties:** This product is not flammable in accordance with aerosol flammability definitions. (See 16 CFR 1500.3(c)(6)). However, it could be made to burn or flash under certain conditions.
- | | | | |
|---------------------------|------|------------------------|----------------|
| Flash Point: | None | Upper Explosive Limit: | 18 (estimate) |
| Autoignition Temperature: | ND | Lower Explosive Limit: | 6.7 (estimate) |

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, hydrogen chloride gas and carbonyl halides, such as phosgene.
- Explosion Hazards:** Aerosol containers, when exposed to heat from fire, may build pressure and explode.
- 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.

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 maximum ventilation. 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. Vapors are heavier than air and will collect in low areas. Avoid breathing vapors or mist. Wear eye protection. Wash thoroughly after handling. 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. For product use instructions, please see the product label.

Storage Procedures: Store in a cool dry area out of direct sunlight. Aerosol cans must be maintained below 120 F to prevent cans from rupturing. Do not store near heat sources or incompatible materials.

Aerosol Storage Level: I

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
COzol® 207	400	500 (v)	200	400	NE		ppm
1,1,1,2-Tetrafluoroethane (HFC-134a)	NE	NE	NE	NE	1000	AIHA	ppm
Carbon dioxide	5000	30000(v)	5000	30000	NE		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 Vinton®, 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: faint ethereal

Odor Threshold: ND

Specific Gravity: 1.276

Initial Boiling Point: ~ 104°F

Freezing Point: ND

Vapor Pressure: > 150 mmHg @ 77°F

Vapor Density: > 1 (air = 1)

Evaporation Rate: fast

Solubility: slight in water

Coefficient of water/oil distribution: ND

pH: NA

Volatile Organic Compounds:	Federal:	wt %:	42.4	g/L:	541.0	lbs./gal:	4.5
	CARB:	wt %:	49.9	g/L:	636.7	lbs./gal:	5.3

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.; oxidizers

Hazardous Decomposition Products: Hydrofluoric acids, carbonyl halides, such as phosgene, and hydrogen chloride gas. 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:

Component	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
Decafluoropentane	> 5 g/kg	> 5 g/kg	11,100 ppm/4H
COzol® 207 (Ingredient #1)	5000 mg/kg	12,800 mg/kg	16,000 ppm/8H
COzol® 207 (Ingredient #2)	1235 mg/kg	> 5 mg/kg	24,100 ppm
1,1,1,2-Tetrafluoroethane (HFC-134a)	No data	No data	1500 g/m ³ /4H
Carbon dioxide	No data	No data	470,000 ppm/30M

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
COzol® 207 (Ingredient #1)	No	No	No	E (moderate) / S (mild)	No
COzol® 207 (Ingredient #2)	No	No	No	E (moderate) / S (mild)	Unknown
1,1,1,2-Tetrafluoroethane (HFC-134a)	No	No	No	No	Unknown
Carbon dioxide	No	No	No	No	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
 COzol® 207 (Ingredient #2) - 5 min EC50 Photobacterium phosphoreum: 1142 mg/L

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

Section 13: Disposal Considerations

Waste Classification: The dispensed liquid product is not a RCRA hazardous waste. Pressurized containers are a D003 reactive waste. (See 40 CFR Part 261.20 – 261.33)
 Empty aerosol 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.

Section 14: Transport Information

US DOT (ground): Consumer Commodity, ORM-D

ICAO/IATA (air): Consumer Commodity, ID8000, 9

IMO/IMDG (water): Aerosols, UN1950, 2.2, Limited Quantity

Special Provisions: None

Section 15: Regulatory Information

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: COzol® 207 (Ingredient #2) - 1000 lbs

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:
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 a General Purpose Degreaser.

State Right to Know:

New Jersey:	COzol® 207 (ingredients #1 & #2)
Pennsylvania:	COzol® 207 (ingredients #1 & #2)
Massachusetts:	COzol® 207 (ingredients #1 & #2)
Rhode Island :	COzol® 207 (ingredient #1)

Canadian Regulations:

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

WHMIS Hazard Class: A, D2B

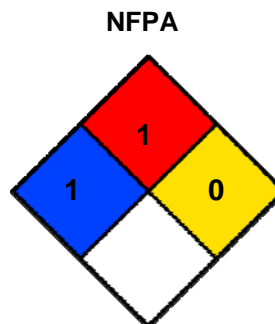
European Union Regulations:

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

Section 16: Other Information

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



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

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 CRC #: 697
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Changes since last revision: Section 16: HMIS and NFPA ratings 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: Pinsky-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