



# MATERIAL SAFETY DATA SHEET

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## Section 1: Product & Company Identification

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**Product Name:** HV Switchgear Lubricant  
**Product Number (s):** 72060  
**Product Use:** lubricant for high voltage switch gear

### 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

**WARNING:** Vapor Harmful. Contents Under Pressure  
Appearance & Odor: translucent white liquid with slight ethereal odor

### Potential Health Effects:

#### ACUTE EFFECTS:

EYE: May cause eye irritation.

SKIN: May cause skin irritation. Extended exposure may cause dermatitis.

INHALATION: Vapors may cause central nervous system depression. Inhalation of high concentrations could cause dizziness, unconsciousness, heart effects, liver effects and possibly death.

INGESTION: May cause irritation to gastrointestinal tract. Low degree of oral toxicity. May be hazardous if aspirated into lungs.

CHRONIC EFFECTS: Unknown

TARGET ORGANS: possible liver effects

Medical Conditions Aggravated by Exposure: Unknown

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.
Dichloropentafluoropropane (HCFC-225ca/cb)	422-56-0 / 507-55-1	45 - 55
1,1,1,2-Tetrafluoroethane (HFC-134a)	811-97-2	35 – 45
Trans-1,2-dichloroethylene	156-60-5	5 – 10
Silicone compounds	63148-62-9	5 - 10

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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. Call a physician.

**Ingestion:** Do NOT induce vomiting as the hazard of aspirating the material into the lungs is considered greater than swallowing it. Consult a physician.

*Note to Physicians:* Treat symptomatically

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### Section 5: Fire-Fighting Measures

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**Flammable Properties:** This product is nonflammable in accordance with aerosol flammability definitions (16 CFR 1500.3(c)(6) ). This product does not exhibit a flame extension or flashback. However, this product should not be sprayed directly on energized electrical equipment as an arc flash may be possible under certain conditions.

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

**Fire and Explosion Data:**

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

**Products of Combustion:** Oxides of carbon, silicone and chlorinated by-products. At temperatures above 570°F / 299°C, this product can decompose to form hydrogen fluoride (HF), but HF will only accumulate with continuous exposure to excessive heat in a sealed vessel.

**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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**Product Name: HV Switchgear Lubricant**  
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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.

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## Section 7: Handling and Storage

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Handling Procedures: Provide adequate ventilation for storage, handling and use, especially for enclosed or low spaces. Avoid contact of liquid with skin and eyes. Do not allow product to contact open flame because dangerous decomposition products may form. Do not use directly on energized equipment. Equipment can be safely re-energized after about 2 minutes. For full 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 / 49°C to prevent cans from rupturing.

Aerosol Storage Level: I

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## Section 8: Exposure Controls/Personal Protection

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### Exposure Guidelines:

COMPONENT	OSHA		ACGIH		OTHER		UNIT
	TWA	STEL	TWA	STEL	TWA	SOURCE	
HCFC-225ca/cb	NE	NE	NE	NE	100	mfr	ppm
1,1,1,2-Tetrafluoroethane (HFC-134a)	NE	NE	NE	NE	1000	AIHA	ppm
Trans-1,2-dichloroethylene	NE	NE	200	NE	200	mfr	ppm
Silicone compounds	NE	NE	NE	NE	NE		

N.E. – Not Established      (c) – ceiling      (s) – skin      (v) – vacated

### 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 Viton. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

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## Section 9: Physical and Chemical Properties

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Physical State: liquid  
Color: translucent white  
Odor: slight ethereal  
Odor Threshold: ND  
Specific Gravity: 1.45  
Initial Boiling Point: 118° F / 48°C  
Freezing Point: -204° F / -131°C  
Vapor Pressure: ND  
Vapor Density: 7 (air = 1)  
Evaporation Rate: fast  
Solubility: negligible  
Coefficient of water/oil distribution: approx 3.15  
pH: NA  
Volatile Organic Compounds: Federal: wt %: 6      g/L: 87      lbs./gal: 0.72  
CARB: wt %: 54      g/L: 783      lbs./gal: 6.5

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## Section 10: Stability and Reactivity

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Stability: Stable  
Conditions to Avoid: open flames, high temperature  
Incompatible Materials: Alkali or alkaline earth metals such as powdered aluminum, zinc, beryllium, etc.  
Hazardous Decomposition Products: Oxides of carbon, silicone, and chlorinated by-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

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## Section 11: Toxicological Information

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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>
HCFC-225ca/cb	> 5 g/kg	> 2 g/kg	36,800 ppm / 4H
1,1,1,2-Tetrafluoroethane (HFC-134a)	No data	No data	1500 g/m <sup>3</sup> / 4H
Trans-1,2-dichloroethylene	1235 mg/kg	> 5 g/kg	24,100 ppm / 4H
Silicone compounds	No data	No data	No data

### Chronic Toxicity:

<u>Component</u>	<u>OSHA Carcinogen</u>	<u>IARC Carcinogen</u>	<u>NTP Carcinogen</u>	<u>Irritant</u>	<u>Sensitizer</u>
HCFC-225ca/cb	no	no	no	no	no
1,1,1,2-Tetrafluoroethane (HFC-134a)	no	no	no	no	unknown
Trans-1,2-dichloroethylene	no	no	no	mild (S) / moderate(E)	unknown
Silicone compounds	no	no	no	no	unknown

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E – Eye      S – Skin      R - Respiratory

Reproductive Toxicity:      None known  
Teratogenicity:              Testing of HCFC-225ca/cb and trans-1,2-dichloroethylene indicates that the compounds are not teratogenic.  
Mutagenicity:                HCFC-225ca/cb do not produce genetic damage in bacterial cell cultures (Ames Assay).  
Synergistic Effects:        No data available.

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## **Section 12: Ecological Information**

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

Ecotoxicity:                    HCFC-225ca – LC50: 83.5 mg/L/48H (*Oryzias latipes*)  
    Trans-1,2-dichloroethylene – LD50: 135 mg/L/96H (*Lepomis macrochirus*) static  
Persistence / Degradability:      This product is not biodegradable.  
Bioaccumulation / Accumulation:    Not determined  
Mobility in Environment:            Highly volatile, will partition rapidly to air

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## **Section 13: Disposal Considerations**

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Waste Classification:      The dispensed liquid product is not a hazardous waste. (See 40 CFR Part 261.20 – 261.33)  
    Aerosol containers should be fully emptied and depressurized before disposal. 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):            Aerosols, non-flammable, UN1950, 2.2, Limited quantity  
ICAO/IATA (air):             Aerosols, non-flammable, UN1950, 2.2, Limited quantity  
IMO/IMDG (water):        Aerosols, non-flammable, UN1950, 2.2, Limited quantity  
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:    Trans-1,2-dichloroethylene (1000 lbs)

**Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to**

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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/cb (< 50%)

Clean Air Act:

Section 112 Hazardous Air Pollutants (HAPs): None

Occupational Safety and Health Administration:

This product is regulated by the Hazard Communications Standard.

**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: Not regulated. Specific use lubricant.

State Right to Know:

New Jersey: 422-56-0, 507-55-1, 156-60-5  
Pennsylvania: 156-60-5  
Massachusetts: 156-60-5  
Rhode Island : 156-60-5

**Canadian Regulations:**

Controlled Products Regulations:

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulation and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS Hazard Class: A, D2B

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

**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:** 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.

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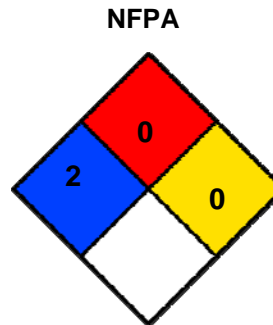
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## Section 16: Other Information

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HMIS® (II)	
Health:	2
Flammability:	0
Reactivity:	0
PPE:	B



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

Prepared By: Michelle Rudnick  
CRC #: 716  
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Changes since last revision: Part number removed

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