




# SAFETY DATA SHEET

## 1. Identification

<b>Product identifier</b>	<b>HV Switchgear Lubricant</b>
<b>Other means of identification</b>	
<b>Product code</b>	02060
<b>Recommended use</b>	Lubricant for high voltage switch gear
<b>Recommended restrictions</b>	None known.
<b>Manufacturer/Importer/Supplier/Distributor information</b>	
<b>Manufacturer</b>	
<b>Company name</b>	CRC Industries, Inc.
<b>Address</b>	885 Louis Dr. Warminster, PA 18974 US
<b>Telephone</b>	
<b>General Information</b>	215-674-4300
<b>Technical Assistance</b>	800-521-3168
<b>Customer Service</b>	800-272-4620
<b>24-Hour Emergency (CHEMTREC)</b>	800-424-9300 (US) 703-527-3887 (International)
<b>Website</b>	www.crcindustries.com

## 2. Hazard(s) identification

<b>Physical hazards</b>	Gases under pressure	Liquefied gas
<b>Health hazards</b>	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2B
<b>OSHA defined hazards</b>	Not classified.	
<b>Label elements</b>		
<b>Signal word</b>	Warning	
<b>Hazard statement</b>	Contains gas under pressure; may explode if heated. Causes skin irritation. Causes eye irritation.	
<b>Precautionary statement</b>		
<b>Prevention</b>	Wash hands thoroughly after handling. Wear protective gloves. Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 49 °C/120 °F. Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area.	
<b>Response</b>	If on skin: Wash with plenty of water. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash before reuse. 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 attention.	
<b>Storage</b>	Store in a well-ventilated place. Protect from sunlight. Exposure to high temperature may cause can to burst.	
<b>Disposal</b>	Dispose of waste and residues in accordance with local authority requirements.	
<b>Hazard(s) not otherwise classified (HNOC)</b>	Not classified.	
<b>Environmental hazards</b>	Hazardous to the ozone layer	Category 1
<b>Supplemental information</b>		
<b>Signal word</b>	Warning	
<b>Hazard statement</b>	Harms public health and the environment by destroying ozone in the upper atmosphere.	
	When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen fluoride and hydrogen chloride.	

### 3. Composition/information on ingredients

#### Mixtures

Hazardous components Chemical name	Common name and synonyms	CAS number	%
1,1,1,2-Tetrafluoroethane (HFC-134a)		811-97-2	40 - 50
HCFC-225cb		507-55-1	35.5
HCFC-225ca		422-56-0	11.8
Trans-1,2-dichloroethylene		156-60-5	5.9
Polydimethylsiloxane		63148-62-9	4.9

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

### 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Remove contaminated clothing. Wash off with soap and plenty of water. If skin irritation occurs: Get medical advice/attention.
<b>Eye contact</b>	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.
<b>Ingestion</b>	Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.
<b>Most important symptoms/effects, acute and delayed</b>	Irritation of eyes and mucous membranes.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If you feel unwell, seek medical advice (show the label where possible). Wash contaminated clothing before reuse.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water.
<b>Unsuitable extinguishing media</b>	None known.
<b>Specific hazards arising from the chemical</b>	Contents under pressure.
<b>Special protective equipment and precautions for firefighters</b>	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
<b>Fire-fighting equipment/instructions</b>	In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.
<b>Methods and materials for containment and cleaning up</b>	Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.
<b>Environmental precautions</b>	Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

### 7. Handling and storage

<b>Precautions for safe handling</b>	Avoid contact with skin. Avoid contact with eyes. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. 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. Observe good industrial hygiene practices. For product usage instructions, please see the product label.
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## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Trans-1,2-dichloroethylene (CAS 156-60-5)	PEL	790 mg/m <sup>3</sup> 200 ppm

#### US. ACGIH Threshold Limit Values

Components	Type	Value
Trans-1,2-dichloroethylene (CAS 156-60-5)	TWA	200 ppm

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Trans-1,2-dichloroethylene (CAS 156-60-5)	TWA	790 mg/m <sup>3</sup> 200 ppm

#### US. AIHA Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
1,1,1,2-Tetrafluoroethane (HFC-134a) (CAS 811-97-2)	TWA	4240 mg/m <sup>3</sup> 1000 ppm

### Biological limit values

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

### Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) 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.

### Individual protection measures, such as personal protective equipment

<b>Eye/face protection</b>	Wear eye/face protection. Wear safety glasses with side shields (or goggles).
<b>Skin protection</b>	
<b>Hand protection</b>	Wear protective gloves.
<b>Other</b>	Wear suitable protective clothing.
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment. Air monitoring is needed to determine actual employee exposure levels.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.

### General hygiene considerations

Keep away from food and drink. 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

<b>Physical state</b>	Liquid.
<b>Form</b>	Aerosol.
<b>Color</b>	Off-white.
<b>Odor</b>	Slight ethereal.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	-204 °F (-131.1 °C) estimated
<b>Initial boiling point and boiling range</b>	118 °F (47.8 °C) estimated
<b>Flash point</b>	Tag Closed Cup None.
<b>Evaporation rate</b>	Fast.
<b>Flammability (solid, gas)</b>	Not available.

**Upper/lower flammability or explosive limits**

<b>Flammability limit - lower (%)</b>	6.7 % estimated
<b>Flammability limit - upper (%)</b>	18 % estimated
<b>Vapor pressure</b>	2663.9 hPa estimated
<b>Vapor density</b>	7 (air = 1)
<b>Relative density</b>	1.46 estimated
<b>Solubility (water)</b>	Negligible.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	860 °F (460 °C) estimated
<b>Decomposition temperature</b>	Not available.
<b>Viscosity (kinematic)</b>	Not available.
<b>Percent volatile</b>	98.7 % estimated

**10. Stability and reactivity**

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<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Contact with incompatible materials. Keep away from heat, sparks and open flame. When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen fluoride and hydrogen chloride.
<b>Incompatible materials</b>	Strong oxidizing agents. Alkalis. Alkali earth metals.
<b>Hazardous decomposition products</b>	Carbon oxides. Hydrochloric acid. Hydrofluoric acid. Carbonyl halides.

**11. Toxicological information**

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**Information on likely routes of exposure**

<b>Ingestion</b>	Expected to be a low ingestion hazard.
<b>Inhalation</b>	Prolonged inhalation may be harmful.
<b>Skin contact</b>	Causes skin irritation.
<b>Eye contact</b>	Causes eye irritation.

**Symptoms related to the physical, chemical and toxicological characteristics** Irritant effects.

**Information on toxicological effects**

**Acute toxicity** Causes eye irritation.

<b>Product</b>	<b>Species</b>	<b>Test Results</b>
HV Switchgear Lubricant		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	5018.2061 mg/kg, estimated
<i>Inhalation</i>		
LC50	Rat	57930.9414 ppm, 4 hours, estimated 5131.7378 mg/l, 4 hours, estimated
<i>Oral</i>		
LD50	Rat	5528.582 mg/kg, estimated
<b>Chronic</b>		
<i>Dermal</i>		
LD50	Rabbit	16848.916 mg/kg, estimated
<i>Inhalation</i>		
NOEL	Rat	14886.3242 ppm, 90 days, estimated
<b>Skin corrosion/irritation</b>	Causes skin irritation.	

<b>Serious eye damage/eye irritation</b>	Causes eye irritation.
<b>Respiratory sensitization</b>	Not available.
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.
<b>Specific target organ toxicity - single exposure</b>	Not classified.
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not an aspiration hazard.
<b>Chronic effects</b>	Prolonged inhalation may be harmful.

## 12. Ecological information

<b>Ecotoxicity</b>	The product contains a substance which is damaging to the ozone layer.		
<b>Product</b>		<b>Species</b>	<b>Test Results</b>
HV Switchgear Lubricant			
Fish	LC50	Fish	783.0671 mg/l, 96 hours, estimated
<b>Components</b>		<b>Species</b>	<b>Test Results</b>
Polydimethylsiloxane (CAS 63148-62-9)			
<b>Aquatic</b>			
Fish	LC50	Channel catfish ( <i>Ictalurus punctatus</i> )	2.36 - 4.15 mg/l, 96 hours
Trans-1,2-dichloroethylene (CAS 156-60-5)			
<i>Acute</i>	EC50	Bacteria	1546 mg/l, 30 minutes 1142 mg/l, 5 minutes
<b>Aquatic</b>			
Fish	LC50	Bluegill ( <i>Lepomis macrochirus</i> )	120 - 160 mg/l, 96 hours
<i>Acute</i>			
Fish	LC50	Bluegill ( <i>Lepomis macrochirus</i> )	135 mg/l, 96 hours
<b>Persistence and degradability</b>	This product is not biodegradable.		
<b>Bioaccumulative potential</b>	No data available.		
<b>Partition coefficient n-octanol / water (log Kow)</b>			
1,1,1,2-Tetrafluoroethane (HFC-134a)		1.274	
Trans-1,2-dichloroethylene		2.06	
HCFC-225cb		3.1	
HCFC-225ca		3.2	
<b>Mobility in soil</b>	No data available.		
<b>Other adverse effects</b>	Not available.		

## 13. Disposal considerations

<b>Disposal of waste from residues / unused products</b>	The dispensed liquid product is not a RCRA hazardous waste (See 40 CFR Part 261.20 - 261.33). Consult authorities before disposal. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazardous waste code</b>	Not regulated.
<b>Contaminated packaging</b>	Do not re-use empty containers.

## 14. Transport information

<b>DOT</b>	
<b>UN number</b>	UN1950
<b>UN proper shipping name</b>	Aerosols, non-flammable, limited quantity
<b>Transport hazard class(es)</b>	2.2
<b>Subsidiary class(es)</b>	Not available.
<b>Packing group</b>	Not available.
<b>Special precautions for user</b>	Not available.

Labels required	2.2
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

#### IATA

UN number	UN1950
UN proper shipping name	Aerosols, non-flammable, limited quantity
Transport hazard class(es)	2.2
Subsidiary class(es)	-
Packaging group	Not available.
Environmental hazards	No
Labels required	Not available.
ERG Code	2L
Special precautions for user	Not available.

#### IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS, LIMITED QUANTITY
Transport hazard class(es)	2
Subsidiary class(es)	-
Packaging group	Not available.
Environmental hazards	
Marine pollutant	No
Labels required	Not available.
EmS	F-D, S-U
Special precautions for user	Not available.

## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

#### SARA 304 Emergency release notification

Not regulated.

#### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

#### US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

HCFC-225ca (CAS 422-56-0)

HCFC-225cb (CAS 507-55-1)

#### CERCLA Hazardous Substance List (40 CFR 302.4)

Trans-1,2-dichloroethylene (CAS 156-60-5)

#### CERCLA Hazardous Substances: Reportable quantity

Trans-1,2-dichloroethylene (CAS 156-60-5) 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.

#### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

#### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

#### US CAA Section 602 Ozone-Depleting Substances: Controlled substance Class

HCFC-225ca (CAS 422-56-0)

II

HCFC-225cb (CAS 507-55-1)

II

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.

**Safe Drinking Water Act (SDWA)** Not regulated.

**Food and Drug Administration (FDA)** Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Section 311/312**  
**Hazard categories** Immediate Hazard - Yes  
Delayed Hazard - No  
Fire Hazard - No  
Pressure Hazard - Yes  
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance** No

**US state regulations****US - New Jersey RTK - Substances: Listed substance**

HCFC-225ca (CAS 422-56-0)  
HCFC-225cb (CAS 507-55-1)  
Trans-1,2-dichloroethylene (CAS 156-60-5)

**US. Massachusetts RTK - Substance List**

Trans-1,2-dichloroethylene (CAS 156-60-5)

**US. Pennsylvania RTK - Hazardous Substances**

Trans-1,2-dichloroethylene (CAS 156-60-5)

**US. Rhode Island RTK**

HCFC-225ca (CAS 422-56-0)  
HCFC-225cb (CAS 507-55-1)  
Trans-1,2-dichloroethylene (CAS 156-60-5)

**US. California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
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)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates this product complies 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, including date of preparation or last revision**

<b>Issue date</b>	07-15-2013
<b>Prepared by</b>	Allison Cho
<b>Version #</b>	01
<b>Further information</b>	Not available.
<b>HMIS® ratings</b>	Health: 2 Flammability: 0 Physical hazard: 1 Personal protection: B
<b>NFPA ratings</b>	Health: 2 Flammability: 0 Instability: 1
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