



# SAFETY DATA SHEET

## 1. Identification

**Product identifier** Precision Plus® Contact Cleaner

**Other means of identification**

**Product code** 10310

**Recommended use** Electronic cleaner

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufactured or sold by:**

**Company name** CRC Industries, Inc.  
**Address** 885 Louis Dr.  
Warminster, PA 18974 US

**Telephone**

**General Information** 215-674-4300

**Technical Assistance** 800-521-3168

**Customer Service**

**24-Hour Emergency (CHEMTREC)** 800-272-4620

703-527-3887 (US)

703-527-3887 (International)

**Website** www.crcindustries.com

## 2. Hazard(s) identification

**Physical hazards** Gases under pressure Liquefied gas

**Health hazards** Not classified.

**Environmental hazards** Hazardous to the ozone layer Category 1

**OSHA defined hazards** Not classified.

**Label elements**



**Signal word** Warning

**Hazard statement** Contains gas under pressure; may explode if heated. Harms public health and the environment by destroying ozone in the upper atmosphere.

**Precautionary statement**

**Prevention** 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. Observe good industrial hygiene practices.

**Response** Wash hands after handling.

**Storage** Protect from sunlight. Store in a well-ventilated place. Exposure to high temperature may cause can to burst.

**Disposal** Dispose of contents/container in accordance with local/regional/national regulations.

**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information**

When exposed to extreme heat or hot surfaces, vapors may decompose to harmful or fatal corrosive gases such as hydrogen fluoride, hydrogen chloride and possibly phosphine.

## 3. Composition/information on ingredients

**Mixtures**

Chemical name	Common name and synonyms	CAS number	%
1,1,1,2-Tetrafluoroethane	HFC-134a	811-97-2	30 - 40
HCFC-225cb		507-55-1	20 - 30
Perfluoro compounds, C5-18		86508-42-1	20 - 30
HCFC-225ca		422-56-0	5 - 10

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

#### 4. First-aid measures

<b>Inhalation</b>	If inhalation of gas/fume/vapor/dust/mist from the material is excessive (air concentration is greater than the TLV or health effects are noticed), immediately remove the affected person(s) to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a POISON CENTER or doctor/physician.
<b>Skin contact</b>	Wash off with soap and water. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Expected to be a low ingestion hazard. Do not induce vomiting because the hazard of aspirating the material into the lungs is considered greater than swallowing it. Call a POISON CENTER or doctor/physician if you feel unwell.
<b>Most important symptoms/effects, acute and delayed</b>	Direct contact with eyes may cause temporary irritation.
<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.

#### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable extinguishing media</b>	None known.
<b>Specific hazards arising from the chemical</b>	Contents under pressure. During fire, gases hazardous to health may be formed. At temperatures above 572°F / 300°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.
<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. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up.

#### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. 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. For personal protection, see section 8 of the SDS.
<b>Methods and materials for containment and cleaning up</b>	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements or confined areas. 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.
<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

### 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. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Avoid release to the environment. For product usage instructions, please see the product label.

### 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 a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

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

Components	Type	Value
1,1,1,2-Tetrafluoroethane (CAS 811-97-2)	TWA	4240 mg/m3  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.

### 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. Neoprene.

##### Other

Wear suitable protective 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

Clear. Colorless.

### Odor

Not available.

### Odor threshold

Not available.

### pH

Not available.

### Melting point/freezing point

-204 °F (-131.1 °C) estimated

### Initial boiling point and boiling range

116.6 °F (47 °C) estimated

### Flash point

None (Tag Closed Cup)

### Evaporation rate

Fast

### Flammability (solid, gas)

Not available.

**Upper/lower flammability or explosive limits**

**Flammability limit - lower (%)** Not applicable.

**Flammability limit - upper (%)** Not applicable.

**Vapor pressure** 2521.5 hPa estimated

**Vapor density** > 5 (air = 1)

**Relative density** 1.48

**Solubility (water)** Negligible.

**Partition coefficient (n-octanol/water)** Not available.

**Auto-ignition temperature** Not available.

**Decomposition temperature** Not available.

**Viscosity (kinematic)** Not available.

**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, flames and sparks. At temperatures above 572°F / 300°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. Contact with incompatible materials.

**Incompatible materials** Alkali metals. Alkaline earth metals. Powdered metal.

**Hazardous decomposition products** Hydrogen fluoride. Perfluoroisobutylene. Carbon oxides.

**11. Toxicological information****Information on likely routes of exposure**

**Ingestion** Expected to be a low ingestion hazard.

**Inhalation** Inhalation of vapors/fumes generated by heating this product may cause respiratory irritation with throat discomfort, coughing or difficulty breathing. Prolonged inhalation may be harmful.

**Skin contact** No adverse effects due to skin contact are expected.

**Eye contact** Direct contact with eyes may cause temporary irritation.

**Symptoms related to the physical, chemical and toxicological characteristics** Direct contact with eyes may cause temporary irritation.

**Information on toxicological effects**

**Acute toxicity** Not available.

Product	Species	Test Results
Precision Plus® Contact Cleaner		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	2921.4141 mg/kg estimated
<i>Inhalation</i>		
LC50	Rat	47192.918 ppm, 4 hours estimated 157.2086 mg/l, 4 hours estimated
<i>Oral</i>		
LD50	Rat	4792.9448 mg/kg estimated

\* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation** Prolonged skin contact may cause temporary irritation.

<b>Serious eye damage/eye irritation</b>	Direct contact with eyes may cause temporary 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 available.
<b>Chronic effects</b>	Prolonged inhalation may be harmful.

## 12. Ecological information

**Ecotoxicity** The product contains a substance which is damaging to the ozone layer.

Components	Species	Test Results
Perfluoro compounds, C5-18 (CAS 86508-42-1)		
<b>Aquatic</b>		
<i>Acute</i>		
Crustacea	EC50 Water flea ( <i>Daphnia magna</i> )	> 1500 mg/l, 96 hours
Fish	LC50 Fathead minnow ( <i>Pimephales promelas</i> )	> 1000 mg/l, 48 hours

\* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** Not available.

**Bioaccumulative potential** Not available.

**Partition coefficient n-octanol / water (log Kow)**

1,1,1,2-Tetrafluoroethane	1.274
HCFC-225ca	3.2
HCFC-225cb	3.1

**Mobility in soil** No data available.

**Other adverse effects** Dangerous for the ozone layer.

## 13. Disposal considerations

**Disposal of waste from residues / unused products** This product is not a RCRA hazardous waste (See 40 CFR Part 261.20 – 261.33). Empty containers may be recycled. Consult authorities before disposal. Contents under pressure. Do not puncture, incinerate or crush. Dispose in accordance with all applicable regulations.

**Hazardous waste code** Not regulated.

**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

## 14. Transport information

### DOT

<b>UN number</b>	UN1950
<b>UN proper shipping name</b>	Aerosols, non-flammable, Limited Quantity
<b>Transport hazard class(es)</b>	
<b>Class</b>	2.2
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	2.2
<b>Packing group</b>	Not applicable.
<b>Special precautions for user</b>	Not available.
<b>Special provisions</b>	Not available.
<b>Packaging exceptions</b>	306
<b>Packaging non bulk</b>	None
<b>Packaging bulk</b>	None

## IATA

<b>UN number</b>	UN1950
<b>UN proper shipping name</b>	Aerosols, non-flammable, Limited Quantity
<b>Transport hazard class(es)</b>	
<b>Class</b>	2.2
<b>Subsidiary risk</b>	-
<b>Packing group</b>	Not applicable.
<b>Environmental hazards</b>	No.
<b>ERG Code</b>	2L
<b>Special precautions for user</b>	Not available.
<b>Other information</b>	
<b>Passenger and cargo aircraft</b>	Allowed.
<b>Cargo aircraft only</b>	Allowed.

## IMDG

<b>UN number</b>	UN1950
<b>UN proper shipping name</b>	AEROSOLS, LIMITED QUANTITY
<b>Transport hazard class(es)</b>	
<b>Class</b>	2
<b>Subsidiary risk</b>	-
<b>Packing group</b>	Not applicable.
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>EmS</b>	F-D, S-U
<b>Special precautions for user</b>	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.  
All components are on the U.S. EPA TSCA Inventory List.

### **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)**

Not listed.

### **CERCLA Hazardous Substances: Reportable quantity**

Not listed.

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 - No  
Delayed Hazard - No  
Fire Hazard - No  
Pressure Hazard - Yes  
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance** No

**US state regulations**

**US. New Jersey Worker and Community Right-to-Know Act**

HCFC-225ca (CAS 422-56-0)  
HCFC-225cb (CAS 507-55-1)

**US. Massachusetts RTK - Substance List**

None.

**US. Pennsylvania Worker and Community Right-to-Know Law**

Not listed.

**US. Rhode Island RTK**

HCFC-225ca (CAS 422-56-0)  
HCFC-225cb (CAS 507-55-1)

**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.

**Volatile organic compounds (VOC) regulations**

**EPA**

**VOC content (40 CFR 51.100(s))** 0 %

**Consumer products (40 CFR 59, Subpt. C)** Not regulated

**State**

**Consumer products** This product is regulated as an Electronic Cleaner. This product is compliant for use in all 50 states.

**VOC content (CA)** 39.1 %

**VOC content (OTC)** 0 %

**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 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, including date of preparation or last revision**

**Issue date** 08-01-2014

**Prepared by** Allison Cho

**Version #** 01  
**Further information** CRC # 413A  
**HMIS® ratings** Health: 1  
Flammability: 0  
Physical hazard: 0  
Personal protection: B  
**NFPA ratings** Health: 1  
Flammability: 0  
Instability: 0

**NFPA ratings**



**Disclaimer**

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 (M)SDS consult your supervisor, a health & safety professional, or CRC Industries.