SAFETY DATA SHEET

1. Identification

Product identifier **Precision Plus® Cleaner**

Other means of identification

Product code 02210, 02211

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 800-272-4620

24-Hour Emergency (CHEMTREC) 800-424-9300 (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. 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 phosgene.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
HCFC-225cb		507-55-1	40 - 50
1,1,1,2-Tetrafluoroethane	HFC-134a	811-97-2	30 - 40
HCFC-225ca		422-56-0	10 - 20
COzol® 101		Proprietary	< 1
COzol® 102		Proprietary	< 1

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

4. First-aid measures

Inhalation
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.

Skin contact
Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact
Rinse with water. Get medical attention if irritation develops and persists.

Ingestion
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.

Most important symptoms/effects, acute and delayed
Direct contact with eyes may cause temporary irritation.

Indication of immediate medical attention and special treatment needed
Provide general supportive measures and treat symptomatically.

General information
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
None known.

Specific hazards arising from the chemical
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.

Special protective equipment and precautions for firefighters
Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Fire-fighting equipment/instructions
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

Personal precautions, protective equipment and emergency procedures
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.

Methods and materials for containment and cleaning up
Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop the flow of material, if this is without risk. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Prevent entry into waterways, sewer, basements or confined areas. For waste disposal, see section 13 of the SDS.

Environmental precautions
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

Slight ethereal.

Odor threshold

Not available.

pH

Not available.

Melting point/freezing point

-204 °F (-131.1 °C) estimated

Initial boiling point and boiling range

129.2 °F (54 °C) estimated

Flash point

None (Tag Closed Cup)

Evaporation rate

0.9 (ether = 1)

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapor pressure	2469 hPa estimated
Vapor density	7 (air = 1)
Relative density	1.45 estimated
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	Hydrochloric acid. Hydrofluoric acid. Carbonyl halides.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Expected to be a low ingestion hazard.
Inhalation	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 Expected to be a low hazard for usual industrial or commercial handling by trained personnel.

Product	Species	Test Results
Precision Plus® Cleaner		
Acute		
Dermal		
LD50	Rabbit	2229.5444 mg/kg estimated
Inhalation		
LC50	Rat	37545.2461 ppm, 4 hours estimated
Oral		
LD50	Rat	5084.2925 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.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory sensitization	Not available.

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

12. Ecological information

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

Product		Species	Test Results
Precision Plus® Cleaner			
Aquatic			
Acute			
Crustacea	EC50	Daphnia	3569.2495 mg/l, 48 hours estimated
Fish	LC50	Fish	5501.3218 mg/l, 96 hours estimated

* 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

UN number	UN1950
UN proper shipping name	Aerosols, non-flammable, Limited Quantity
Transport hazard class(es)	
Class	2.2
Subsidiary risk	-
Label(s)	2.2
Packing group	Not applicable.
Special precautions for user	Not available.
Special provisions	Not available.
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)

Class	2.2
Subsidiary risk	-

Packing group	Not applicable.
Environmental hazards	No.
ERG Code	2L
Special precautions for user	Not available.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS, LIMITED QUANTITY
Transport hazard class(es)	
Class	2
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No.
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.
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)	65.2 %
VOC content (OTC)	0 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
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)	No
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	No

*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 # 413B-C

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.