



SAFETY DATA SHEET

1. Identification

Product identifier XT-2000™ Precision Cleaner

Other means of identification
Product code No. 72155 (Item# 1006135)

Recommended use Electronic cleaner

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information
Manufactured or sold by:
Company name CRC Canada Co.
Address 2-1246 Lorimar Drive
Mississauga, Ontario L5S 1R2
Canada

Telephone
General Information 905-670-2291
24-Hour Emergency (CHEMTREC) 800-424-9300 (Canada)
703-527-3887 (International)

Website www.crc-canada.ca

E-mail Support.CA@crcindustries.com

2. Hazard(s) identification

Physical hazards	Gases under pressure	Liquefied gas
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Aspiration hazard	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3

Label elements



Signal word Danger

Hazard statement Contains gas under pressure; may explode if heated. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention	Avoid breathing mist or vapor. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Wear protective gloves and eye/face protection. Avoid release to the environment.
Response	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. 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 advice/attention.
Storage	Keep container tightly closed. Store locked up. Protect from sunlight. Store in a well-ventilated place.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards 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	%
1,1,1,2-tetrafluoroethane	HFC-134a	811-97-2	30 - 60
decafluoropentane	HFC 43-10mee	138495-42-8	30 - 60
trans-1,2-dichloroethylene		156-60-5	15 - 40
isopropyl alcohol		67-63-0	0.5 - 1.5
methylal		109-87-5	0.5 - 1.5
methanol		67-56-1	0.1 - 1

The exact percentage (concentration) of composition has been withheld as a trade secret.

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	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.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
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	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed. 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.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
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.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Contents under pressure. Pressurized container may rupture when exposed to heat or flame.

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. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
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Methods and materials for containment and cleaning up

Stop leak if you can do so without risk. 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. Prevent product from entering drains. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: 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.

Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. 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. Do not re-use empty containers. Do not taste or swallow. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

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. ACGIH Threshold Limit Values**

Components	Type	Value
isopropyl alcohol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm
methanol (CAS 67-56-1)	STEL	250 ppm
	TWA	200 ppm
methylal (CAS 109-87-5)	TWA	1000 ppm
trans-1,2-dichloroethylene (CAS 156-60-5)	TWA	200 ppm

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
isopropyl alcohol (CAS 67-63-0)	STEL	984 mg/m3
	TWA	400 ppm 492 mg/m3
methanol (CAS 67-56-1)	STEL	200 ppm 328 mg/m3
	TWA	250 ppm 262 mg/m3
methylal (CAS 109-87-5)	TWA	200 ppm 3110 mg/m3
	TWA	1000 ppm 793 mg/m3
trans-1,2-dichloroethylene (CAS 156-60-5)	TWA	200 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
isopropyl alcohol (CAS 67-63-0)	STEL	400 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
methanol (CAS 67-56-1)	TWA	200 ppm
	STEL	250 ppm
methylal (CAS 109-87-5)	TWA	200 ppm
	STEL	1250 ppm
trans-1,2-dichloroethylene (CAS 156-60-5)	TWA	1000 ppm
	TWA	200 ppm

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value
isopropyl alcohol (CAS 67-63-0)	STEL	400 ppm
methanol (CAS 67-56-1)	TWA	200 ppm
	STEL	250 ppm
methylal (CAS 109-87-5)	TWA	200 ppm
	TWA	1000 ppm
trans-1,2-dichloroethylene (CAS 156-60-5)	TWA	200 ppm

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
isopropyl alcohol (CAS 67-63-0)	STEL	400 ppm
methanol (CAS 67-56-1)	TWA	200 ppm
	STEL	250 ppm
methylal (CAS 109-87-5)	TWA	200 ppm
	TWA	1000 ppm
trans-1,2-dichloroethylene (CAS 156-60-5)	TWA	200 ppm

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
isopropyl alcohol (CAS 67-63-0)	STEL	1230 mg/m3
	TWA	500 ppm
		983 mg/m3
methanol (CAS 67-56-1)	STEL	400 ppm
	TWA	328 mg/m3
		250 ppm
		262 mg/m3
methylal (CAS 109-87-5)	TWA	200 ppm
		3110 mg/m3
		1000 ppm
trans-1,2-dichloroethylene (CAS 156-60-5)	TWA	793 mg/m3
		200 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
isopropyl alcohol (CAS 67-63-0)	40 mg/l	Acetone	Urine	*
methanol (CAS 67-56-1)	15 mg/l	Methanol	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

Canada - Alberta OELs: Skin designation

methanol (CAS 67-56-1) Can be absorbed through the skin.

Canada - British Columbia OELs: Skin designation

methanol (CAS 67-56-1) Can be absorbed through the skin.

Canada - Manitoba OELs: Skin designation

methanol (CAS 67-56-1)

Can be absorbed through the skin.

Canada - Ontario OELs: Skin designation

methanol (CAS 67-56-1)

Can be absorbed through the skin.

Canada - Quebec OELs: Skin designation

methanol (CAS 67-56-1)

Can be absorbed through the skin.

Canada - Saskatchewan OELs: Skin designation

methanol (CAS 67-56-1)

Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

methanol (CAS 67-56-1)

Can be absorbed through the skin.

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**Eye/face protection**

Wear safety glasses with side shields (or goggles).

Skin protection**Hand protection**

Wear protective gloves such as: Polyvinyl alcohol (PVA). Neoprene. Viton®.

Other

Wear appropriate chemical resistant clothing. Wear suitable protective clothing.

Respiratory protection

Wear positive pressure self-contained breathing apparatus (SCBA). Chemical respirator with organic vapor cartridge and full facepiece. 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 eat, drink or smoke. 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

Mild.

Odor threshold

Not available.

pH

Not available.

Melting point/freezing point

-157 °F (-105 °C) estimated

Initial boiling point and boiling range

106.9 °F (41.6 °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 (%)**

2 % estimated

Flammability limit - upper (%)

19.9 % estimated

Vapor pressure

2856.1 hPa estimated

Vapor density

> 1 (air = 1)

Relative density

1.38 estimated

Solubility(ies)**Solubility (water)**

Slight.

Partition coefficient (n-octanol/water)

Not available.

Auto-ignition temperature	500 °F (260 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
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. Contact with incompatible materials. 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.
Incompatible materials	Strong acids. Strong oxidizing agents. Alkaline earth metals. Alkali metals. Powdered metal. Strong bases.
Hazardous decomposition products	Carbon oxides. Hydrogen fluoride. Hydrogen chloride. Carbonyl halides. Phosgene.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause drowsiness and dizziness. Headache. Nausea, vomiting.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

Symptoms related to the physical, chemical and toxicological characteristics	Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
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Information on toxicological effects

Acute toxicity	May be fatal if swallowed and enters airways. Narcotic effects.
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Components	Species	Test Results
decafluoropentane (CAS 138495-42-8)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg
Inhalation		
LC50	Rat	11058 mg/kg, 4 hours calculated
Oral		
LD50	Rat	> 5000 mg/kg
isopropyl alcohol (CAS 67-63-0)		
Acute		
Dermal		
LD50	Rabbit	13900 mg/kg
Inhalation		
LC50	Rat	16000 ppm, 4 hours
Oral		
LD50	Rat	4700 mg/kg
methanol (CAS 67-56-1)		
Acute		
Dermal		
LD50	Rabbit	12800 mg/kg

Components	Species	Test Results
Inhalation		
LC50	Rat	64000 ppm, 4 hours
Oral		
LD50	Rat	5628 mg/kg
methylal (CAS 109-87-5)		
Acute		
Dermal		
LD50	Rabbit	> 13700 mg/kg
Oral		
LD50	Rat	6653 mg/kg
trans-1,2-dichloroethylene (CAS 156-60-5)		
Acute		
Oral		
LD50	Rat	1235 mg/kg

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

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory sensitization	Not a respiratory sensitizer.
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

ACGIH Carcinogens

isopropyl alcohol (CAS 67-63-0)

A4 Not classifiable as a human carcinogen.

Canada - Manitoba OELs: carcinogenicity

isopropyl alcohol (CAS 67-63-0)

Not classifiable as a human carcinogen.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	May cause drowsiness and dizziness.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	May be fatal if swallowed and enters airways.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Components	Species	Test Results
decafluoropentane (CAS 138495-42-8)		
Aquatic		
<i>Acute</i>		
Crustacea	EC50	Water flea (Daphnia magna) 11.7 mg/l, 48 hours
Fish	LC50	Zebra danio (Danio rerio) 13 mg/l, 96 hours
isopropyl alcohol (CAS 67-63-0)		
Aquatic		
<i>Acute</i>		
Crustacea	EC50	Water flea (Daphnia magna) 7550 - 13299 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) 9640 mg/l, 96 hours
methanol (CAS 67-56-1)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) > 10000 mg/l, 48 hours

Components	Species	Test Results
Fish methylal (CAS 109-87-5) Aquatic	LC50	Fathead minnow (<i>Pimephales promelas</i>) > 100 mg/l, 96 hours
Fish trans-1,2-dichloroethylene (CAS 156-60-5) Aquatic	LC50	Fathead minnow (<i>Pimephales promelas</i>) 6261 - 7801 mg/l, 96 hours
Fish <i>Acute</i>	LC50	Bluegill (<i>Lepomis macrochirus</i>) 120 - 160 mg/l, 96 hours
Crustacea	EC50	Water flea (<i>Daphnia magna</i>) 220 mg/l, 48 hours

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

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

1,1,1,2-tetrafluoroethane	1.274
decafluoropentane	2.7, Pow at 20 °C
isopropyl alcohol	0.05
methanol	-0.77
methylal	0
trans-1,2-dichloroethylene	2.06

Bioconcentration factor (BCF)

isopropyl alcohol	3.16
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Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products Contents under pressure. Do not puncture, incinerate or crush. Empty container can be recycled. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code Not regulated.

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

14. Transport information

TDG

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.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	80, 107

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	Read safety instructions, SDS and emergency procedures before handling.

Other information

Passenger and cargo aircraft Allowed with restrictions.
Cargo aircraft only Allowed with restrictions.

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 Not available.
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

Canadian regulations This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Canada. Excluded VOCs. Guidelines for Volatile Organic Compounds in Consumer Products. CEPA 1999. Environment Canada, as amended

1,1,1,2-tetrafluoroethane (CAS 811-97-2)
 decafluoropentane (CAS 138495-42-8)

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

1,1,1,2-tetrafluoroethane (CAS 811-97-2)
 decafluoropentane (CAS 138495-42-8)

Ontario. Toxic Substances. Toxic Reduction Act, 2009. Regulation 455/09 (July 1, 2011)

methanol (CAS 67-56-1)

Precursor Control Regulations

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

1,1,1,2-tetrafluoroethane (CAS 811-97-2) Listed.
 decafluoropentane (CAS 138495-42-8) Listed.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

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

Country(s) or region	Inventory name	On inventory (yes/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)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
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

Issue date 08-24-2016

Version # 01

Further information CRC # 754/1002770

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