Safety Data Sheet

1 Identification

GHS Product Identifier

Product Form:	Aerosol
Trade Name:	Dental City Wintergreen Freeze Spray
Product Numbers:	41-205

Other means of identification

Synonyms:	trans-1,3,3,3-Tetrafluoroprop-1-ene

Recommended use of the chemical and restriction on use

Use of the substance/mixture:	Follow Label Directions
Use of the substance/mixture:	Freeze spray

Supplier's details

Dental City
3205 Yeager Drive
Green Bay, WI 54311 USA

Tel.: 800-353-9595

Emergency phone number

CHEMTREC 24 Hour Emergency Response

USA & Canada	800-424-9300

2 Hazard(s) identification

Classification of the substance or mixture

Aerosols — Category 3

GHS label elements

Warning

Pressurized container: may burst if heated

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Do not pierce or burn, even after use.

Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Other hazards which do not result in classification

Rapid evaporation of the liquid may cause frostbite. Vapors are heavier than air and can cause suffocation by reducing available oxygen. May cause cardiacarrhythmia. Misuse or intentional inhalation can be fatal as a result of effects on the heart, without alarming symptoms.

3 Composition/information on ingredients

Description	CAS Number	EINECS Number	%	Note
trans-1,3,3,3-Tetrafluoroprop-1-ene (Active ingredient)	29118-24-9	471-480-0	100	

4 First-aid measures

Description of necessary first-aid measures

Eye Contact:	For liquid contact, irrigate with running water for minimum of 15 minutes. Seek medical attention.
Skin Contact:	For liquid contact, warm areas gradually and get medical attention if there is evidence of frost bite or tissue damage. Flush area with lukewarm water. Do not rub affected area. If blistering occurs, apply a sterile dressing. Seek medical attention.
Inhalation:	Remove to fresh air. Artificial respiration and/or oxygen may be necessary. Consult a physician.
Ingestion:	This material is a gas under normal atmospheric conditions and ingestion is unlikely.

Most important symptoms/effects, acute and delayed

Acute:	Anesthetic effects at high concentrations.
Delayed:	None known or anticipated. See Section 11 for information on effects from chronic exposure, if any.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to Physician: Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to high concentrations (e.g., in enclosed spaces or with deliberate abuse). The use of other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for the development of cardiac arrhythmias.

5 Fire-fighting measures

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water Mist, Dry Powder, Foam, Carbon Dioxide.

Specific hazards arising from the chemical

Unusual Fire and Explosion Hazards:	If container is not properly cooled, it can rupture in the heat of a fire. Drains can be plugged and valves made inoperable by the formation of ice if rapid evaporation of large quantities of the liquefied gas occurs.
Hazardous Combustion Products:	Hazardous decomposition products may include: Hydrogen Fluoride, Carbonyl fluoride. Carbon Oxides.

Special protective actions for fire-fighters

Self-contained breathing apparatus (SCBA) is required if containers rupture and contents are released under fire conditions. Cool containers/ tanks with water spray. Product is not combustible under normal conditions. However, this material can ignite when mixed with air under pressure and exposed to strong ignition sources. Do not allow run-off from fire fighting to enter drains or water courses. Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing. Some risk may be expected of corrosive and toxic decomposition products. Fire may cause evolution of: Hydrogen fluoride.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus. Keep upwind of leak -evacuate until gas has dispersed.

Environmental precautions

Stop spill/release if it can be done safely. Water spray may be useful in minimizing or dispersing vapors. If spill occurs on water notify appropriate authorities and advise shipping of any hazard.

Methods and materials for containment and cleaning up

Ventilate area using forced ventilation, especially low or enclosed places where heavy vapors might collect. Notify relevant authorities in accordance with all applicable regulations.

Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken.

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with cleanup. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

7 Handling and storage

Precautions for safe handling

Comply with state and local regulations. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Wash hands thoroughly after handling. Wash clothing after use. Decomposition will occur when product comes in contact with open flame or electrical heating elements. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8).

Contents are under pressure. Gases can accumulate in confined spaces and limit oxygen available for breathing. Use only with adequate ventilation. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146.

Conditions for safe storage, including any incompatibilities

Keep container(s) tightly closed and properly labeled. Use and store this material in cool, dry, well ventilated areas away from heat, direct sunlight. Store only in approved containers. Protect container(s) against physical damage. "Empty" containers retain residue and may be dangerous.

8 Exposure controls/personal protection

Control parameters

Component	ACIGH TLV (TWA)	ACIGH TLV (STEL)	OSHA PEL (TWA)	OTHER PEL
trans-1,3,3,3-Tetrafluoroprop-1-ene				800 ppm Honeywell AEL

Appropriate engineering controls

Use only with adequate ventilation. Keep container tightly closed.

Individual protection measures

Eye/Face Protection: The use of eye protection (such as splash goggles) that meets or exceeds ANSI Z.87.1 is recommended when there is potential liquid contact to the eye. Depending on conditions of use, a face shield may be necessary.

Skin Protection:	Impervious, insulated gloves recommended.
Respiratory Protection:	Wear NIOSH approved respiratory protection as appropriate.

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

9 Physical and chemical properties

Physical and chemical properties

Appearance & Odor:	Clear, colorless liquefied gas with a slight ethereal odor.
Odor Threshold:	No Data
pH:	Not Applicable
Melting/ Freezing Point:	No Data
Flash Point (Method) :	None per ASTM E681
Lower Explosion Limit:	None< 28°C
Vapor Pressure @ 70 °F:	61 PSIG
Specific Gravity (H20 = 1.00):	1.19
Percent Volatile by Volume:	100%
Initial Boiling Point/ Range:	-19 °C
Evaporation Rate:	> 1 (Ethyl Ether= 1.0)
Upper Explosion Limit:	None< 28°C
Vapor Density (air= 1.00):	3.9
Solubility in Water @ 70 °F:	0.0373%
Auto-ignition temperature:	368 °C
Decomposition Data:	No Data
Viscosity:	No Data

10 Stability and reactivity

Chemical stability

Stable at normal temperatures and conditions

Possibility of hazardous reactions

Does not occur

Conditions to avoid

When pressurized with air or oxygen, the mixture may become flammable. Certain mixtures of HCFCs or HFCs with chlorine may become flammable or reactive under certain conditions. To avoid thermal decomposition, do not overheat.

Incompatible materials

Alkali or Alkaline Earth Metals. Powdered Metal. Powdered Metal Salts.

Hazardous decomposition products

Carbon oxides, Hydrogen fluoride, Carbonyl fluoride, Fluorocarbons.

11 Toxicological information

Toxicological (health) effects

Effects of Over Exposure

Ingestion:	Aspiration hazard!
Inhalation:	Inhalation of vapor may produce anesthetic effects and feeling of euphoria.

	Prolonged overexposure can cause rapid breathing, headache, dizziness, narcosis, unconsciousness, and death from asphyxiation, depending on concentration and time of exposure.
Skin Contact:	Contact with evaporating liquid can cause frostbite.
Eye Contact:	Liquid can cause severe irritation, redness, tearing, blurred vision, and possible freeze burns.
Specific Target Organ Toxicity (Single Exposure):	Not expected to cause organ effects from single exposure.
Specific Target Organ Toxicity (Repeated Exposure):	Not expected to cause organ effects from repeated exposure.
Carcinogenicity:	Not expected to cause cancer. This substance is not listed as a carcinogen by IARC, NTP or OSHA.
Germ Cell Mutagenicity:	Not expected to cause heritable genetic effects.
Reproductive Toxicity:	Not expected to cause reproductive toxicity.
Other Comments:	High concentrations may reduce the amount of oxygen available for breathing, especially in confined spaces. Hypoxia (inadequate oxygen) during pregnancy may have adverse effects on the developing fetus.

Information on Toxicological Effects of Components
trans-1,3,3,3-Tetrafluoropro-1-ene

Acute inhalation toxicity:	Species: mouse Note: Acute (4-Hour) Inhalation Toxicity Screening Study (mouse): No lethality at >100,000 ppm. LC50: > 207000 ppm Exposure time: 4 h Species: rat
Skin irritation:	Species: rabbit Result: No skin irritation Method: OECD Test Guideline 404
Sensitisation:	Cardiac sensitization Species: dogs Result: Did not cause sensitisation on laboratory animals.
Repeated dose toxicity:	Species: rat Application Route: Inhalation Exposure time: 13 Weeks Note: Causes mild effects on the heart. NOEL 5,000 ppm
Genotoxicity in vitro:	Test Method: Chromosome aberration test in vitro Cell type: Human lymphocytes Result: negative

	Test Method: Ames test Result: negative
Genotoxicity in vivo:	Test Method: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis) Species: mouse Cell type: Micronucleus Application Route: Inhalation Result: negative
Teratogenicity:	Species: rabbit Method: Prenatal Developmental Inhalation Toxicity Study Note: Did not show teratogenic effects in animal experiments.
	Species: rat Method: Prenatal Developmental Inhalation Toxicity Study Note: Did not show teratogenic effects in animal experiments.
Further information:	Note: Excessive exposure may cause central nervous system effects including drowsiness and dizziness. Excessive exposure may also cause cardiac arrhythmia. Rapid evapouration of the liquid may cause frostbite.

12 Ecological information

Toxicity

Ecotoxicity effects

Toxicity to fish:	NOEC: > 117 mg/l Exposure time: 96 h Species: Cyprinus carpio (Carp)
Toxicity to daphnia and other aquatic invertebrates:	ECS0: > 160 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea)
Toxicity to algae:	Growth inhibition NOEC: > 170 mg/l Exposure time: 72 h Species: Algae

Persistence and degradability

Aerobic Result: Not readily biodegradable. Further information on ecology

Additional ecological Information: no data available

Bioaccumulative potential

Not expected as having the potential to bioaccumulate.

Mobility in soil

Due to the extreme volatility of liquefied gases, air is the only environmental compartment in which they will be found.

Other adverse effects

None anticipated

trans-1,3,3,3-Tetrafluoropro-1-ene: GWP 6

13 Disposal considerations

Disposal methods

Waste Disposal

Reclaim by distillation, incinerate, or remove to a permitted waste facility.

Environmental Hazards

Empty pressure vessels should be returned to the supplier.

**Comply With All State and Local Regulations **

14 Transport information

UN Number

DOT

UN Number	UN1950
UN proper shipping name	Aerosols, non-flammable
Transport hazard class(es)	
Class	2.2
Subsidiary risk	-
Label(s)	2.2
Packing group	Not applicable.
Limited Quantity	Yes

IATA

UN Number	UN1950
UN proper shipping name	Aerosols, non-flammable
Transport hazard class(es)	
Class	2.2
Subsidiary risk	-
Packing group	Not applicable.
Limited Quantity	Yes
Cargo aircraft only	Allowed with special labeling

IMDG

UN Number	UN1950
UN proper shipping name	Aerosols, non-flammable
Transport hazard class(es)	
Class	2.2
Subsidiary risk	-
Packing group	Not applicable.
Limtied Quantity	Yes
Special provision	T50
Packaging exceptions	306
Packaging non bulk	304
Packaging bulk	314, 315

15 Regulatory information

Safety, health and environmental regulations specific for the product in question

Regulatory Information

Chemical Inventories

USA TSCA: All components of this product are listed on the TSCA Inventory.

SARA Title Ill:
CERCLA/SARA (Section 302) Extremely Hazardous Substances and TPQs (in pounds):
This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

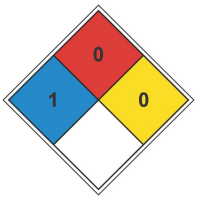
SARA (311, 312) Hazard Class:

Acute Health: Yes
Chronic Health: No
Fire Hazard: No
Pressure Hazard: Yes

SARA (313) Chemicals: Not listed

California Proposition 65: This material does not contain any chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm at concentrations that trigger the warning requirements of California Proposition 65.

Other Information: trans-1,3,3,3-Tetrafluoroprop-1-ene is excluded from the regulatory definition of volatile organic compounds or VOC.



16 Other information

Other information

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