Precision Gas Products Inc.

2455 Cawthra Road, Unit 21 / Mississauga, Ontario L5A 3P1
Tel: (905)-949-2626/1-888-730-8196 Fax: (905)-949-2688
Emergency Contact: Chemtrec (800) 424-9300

"SUVA"- 123 REFRIGERANTS

MATERIAL SAFETY DATA SHEET

Identification

Revision Date 01-01-15

Chemical Family Name: Not Applicable
Formula: CHC12CF3
Document Number: MSDS 202/117
CAS Name: 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123)
CAS Number and %
306-83-2 100

Hazard Identification

Potential Health Effects: Inhalation of high concentrations of vapor is harmful and may cause heart irregularities, unconsciousness, or death. Intentional misuse or deliberate inhalation may cause death without warning. Vapor reduces oxygen available for breathing and is heavier than air. Product causes mild eye irritation. Decomposition products are hazardous.

Health Hazards: Eye contact may cause irritation with discomfort, tearing, or blurring of vision. Overexposure by inhalation may cause liver damage with altered enzyme levels, and temporary nervous system depression with anesthetic effects such as dizziness, weakness, headache, confusion, incoordination, and loss of consciousness. With overexposure (>2%), possibly temporary alteration of the heart's electrical activity with irregular pulse, palpitations, or inadequate circulation. Increased susceptibility to the effects of this material may observed in persons with pre-existing disease of the central nervous system, cardiovascular system, and liver.

Carcinogenicity Information: None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

First – Aid Measures

Inhalation
If high concentrations are inhaled, immediately remove to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Skin Contact
In case of contact, flush with water. Get medical attention if irritation is present.

Eye Contact
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

Ingestion
Material poses an aspiration hazard. If swallowed, do not induce vomiting. Immediately dive 2 glasses of water. Never give anything by mouth to an unconscious person. Call a physician. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration.

Notes to Physicians
This material may make the heart more susceptible to arrhythmia. Catecholamines such as adrenaline, and other compounds having similar effects, should be reserved for emergencies and then used only with special caution.

Fire – Fighting Measures

Flash Point: None
Flammable Limits (in air by volume %):
Lower Explosion Limit (%): N/A
Upper Explosion Limit (%): N/A

- Fire Extinguishing Materials: Use water spray or fog to cool containers. Drums may rupture under fire conditions.

- Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

- Fire Fighting Instructions: Cool tank/container with water spray. Self-contained breathing apparatus (SCAB) is required if drums rupture and contents are spilled under fire conditions.

Accidental Release Measures

- Safeguards (Personnel): Note: Review Fire Fighting Measures and Handling sections before proceeding with clean up. Use appropriate Personal Protective Equipment during clean up.

- Ventilate Spill Area: Emergency Exposure Limits (EEL) are established to facilitate site or plant emergency evacuation and specify airborne concentrations of brief duration, which should not result in permanent adverse health effects or interfere with escape. EEL's are expressed as airborne concentration multiplied by time for up to a maximum of 60 minutes and as a ceiling airborne concentration. These limits are used in conjunction with engineering controls, monitoring and as aid in planning for episodic releases and spills. Emergency Exposure Limit (EEL) for HCFC 123 is 1000 ppm for up to 60 minutes with 1 minute not-to-exceed ceiling of 2500 ppm.

- Initial Containment: Dike spill. Prevent material from entering sewers, waterways, or low areas.

- Spill Clean Up: Collect on absorbent material and transfer to steel drums for recovery or disposal. Comply with, State and local regulations for reporting release.

Handling and Use

Handling (Personnel)
Avoid breathing high concentrations of vapor. Provide adequate ventilation for storage, handling and use, especially for enclosed or low spaces. Avoid contact of liquid with eyes and prolonged skin exposure.

Handling (Physical Aspects)
Do not allow product to contact open flame or electrical heating elements because dangerous products may form.

Storage
Store in clean, dry place. Do not heat above 52ºC(126ºF), do not heat above 52ºC to avoid over pressurizing the container.

Exposure Controls – Personal Protection

Engineering Controls: Use only with adequate ventilation. Keep container tightly closed. Vapors are heavier than air posing a hazard of asphyxia if the are trapped in enclosed or low places.

Personal Protective Equipment: Eye and Face Protection-Wear safety glasses or coverall chemical splash goggles.

Respirators: Where there is potential for airborne exposure in excess of appliance limits, wear NIOSH/MSHA approved respiratory protection.

Protective Clothing: Where there is potential for skin contact have available and wear appropriate impervious gloves, apron, pants and jacket.

Exposure Guidelines
Exposure Limits
"SUVA"-123 REFRIGERANT

PEL (OSHA)	None Established
TLV (ACGIH)	None Established
WEEL (AIHA)	50ppm, 8hr. TWA

Physical and Chemical Properties

Physical Data

Boiling Point: 27.6ºC (81.7ºF) @ 760mm Hg.

Vapor Pressure: 13 psia @ 25ºC (77ºF)

Vapor Density: 5.3 (Air=1.0)

% Volatile: 100 WT%

Evaporating Rate: <1 (CC14=1.0)

Solubility in Water: 0.39 WT% @ 25ºC (77ºF)

pH: Neutral

Odor: Ether (slight)

Form: Liquid

Color: Clear, Colorless

Liquid Density: 1.46 g/cm3 @ 25ºC (77ºF)

Stability and Reactivity

Chemical Stability: Stable

Conditions to Avoid: Avoid Open flames and high temperature.

Incompatibility with Other Materials: Incompatible with alkali or alkaline earth metals – powder Al, Zn, Be.

Decomposition: Decomposition products are hazardous. This material can be decomposed by high temperatures (open flames, glowing metal surfaces) forming hydrochloric and hydrofluoric acids, and possibly carbonyl halides.

Polymerization: Polymerization will not occur.

Toxicological Information

Animal Data – HCFC-123

- Dermal ALD, rabbit: >2000 mg/kg
- Oral ALD, rat: 9000 mg/kg
- Inhalation 4 hours, LC50, rat: 32,000ppm

Animal testing indicates that HCFC-123 is not a skin irritant or skin sensitizer, but is mild to moderate eye irritant.

Toxic effects noted in animals from single exposure by inhalation at concentrations of 5000ppm or greater include effects on unconditioned reflexes, locomotion activity and coordination, suggesting anesthetic effects. Single inhalation exposures caused central nervous system effects, such as anesthesia, and nonspecific clinical signs and organ pathology changes. Cardiac sensitization occurred in dogs at concentrations of 20,000ppm and greater.

Repeated exposures to 300ppm and higher resulted in decreased cholesterol, triglycerides or glucose, and increased urinary fluoride levels. At 5000ppm or greater, anesthetic effects, reduced lymphocyte counts, organ weight changes, including increased liver weight, and enzyme alternations, and decreased body weight gain were observed. Exposure to dogs, guinea pigs or monkeys at 1000ppm or greater induced slight or mild liver damage. HCFC-123 was not neurotoxic in animals repeatedly exposed by inhalation at concentrations up to 5,000ppm, but did cause a slight decrease in arousal at this concentration.

Long-term exposure caused decreased body weight, decreased cholesterol, triglycerides and glucose, and increased urinary fluoride concentrations in rats. Inhalation of 300, 1000 or 5000ppm for two years caused in benign testicular tumors in male rats. An increase in benign pancreatic and liver tumors was observed in rats exposed to 1000 or 5000ppm. The tumors were late occurring and none were judged to be life threatening. The biological significance of these tumors to man is considered to be limited. Additionally, evidence of retinal atrophy was observed in these two-year study in both treated and control animals, although the toxicological significance is undetermined.

Animal data indicates that HCFC-123 does not affect reproductive performance in rates or harm the unborn animal. HCFC-123 does not produce genetic damage in bacteria cell cultures or in animals. In two studies, genetic damage was produced in mammalian cell cultures, but did not produce genetic damage in another study. Overall weight of evidence indicates that HCFC-123 is not mutagenic.

Ecological Information

Aquatic Toxicity

- Slightly

96 hours LC50 – Fathead minnows: >77 mg/l

Disposal Consideration

Preparing Wastes for Disposal: Waste disposal must be in accordance with appropriate Federal, State, and local regulations. Cylinders with undesired residual product may be safely vented outdoors with the proper regulator. For further information, refer to Section 16 (Other Information).

Transportation Information

Shipping Information

Not regulated as a hazardous material by DOT or IMO.

Shipping Containers

- Tank cars
- Tank trucks
- Pails
- Drums

Regulatory Information

- Acute : YES
- Chronic : YES
- Fire : NO
- Reactivity : NO
- Pressure : NO

Hazardous Chemical List

SARA Extremely Hazardous Substance	-NO
CERCLA Hazardous Substance	-NO
SARA Toxic Chemical	-See Components Section

Other Information

NFPA, NPCA-HMIS

NPCA-HMIS Rating	
Health	1
Flammability	0
Reactivity	1

Personal Protection rating to be supplied by user depending on use conditions.

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.