


 NAVIN FLUORINE INTERNATIONAL LIMITED		MATERIAL SAFETY DATA SHEET (MSDS) REFRIGERANT 22		
1. CHEMICAL IDENTITY				
Chemical Name		Chloro difluoro methane		
Synonym		HCFC 22		
Formula		CHClF ₂		
2. COMPOSITION / INFORMATION ON INGREDIENTS				
Ingredients name: Chloro difluoro Methane, CAS no		75-45-6		
3. PHYSICAL / CHEMICAL DATA				
Boiling Point		-40.7 °C	Vapour Pressure @-25 °C	201 kPa
Melting Point		-157.4 °C	Solubility in water, at 25 °C	0.28 g/L
Vapour Density (Air = 1)		2.98	Appearance	Clear Colorless
Specific Gravity (Water=1)		1.194 at 25 °C	Odour	Ether-like.
pH (5% Soln.)		N.F.	Other	----
Physical state		Gas.		
4. FIRE / EXPLOSION HAZARD DATA				
Flammability:		No	LEL%	Not Applicable
Flash Point :		Not Applicable		
Auto decomposition Temp.: 632 °C		UEL%	Not Applicable	
TDG Flammability		NA		
Explosion Sensitivity to Impact		NA		
Explosion Sensitivity to static electricity		NA		
Hazardous Combustion Product		Will not occur		
Hazardous Polymerization		Will not occur		
Combustible liquid		No	Oxidizer	No
Flammable material		No	Organic Peroxide	No
Pyrophoric material		No	Corrosive	No
Explosive material		No	Other	No
5. STABILITY & REACTIVITY DATA				
Chemical stability		Stable.		
Incompatibility		Certain elastomers; alkali or alkaline earth metals; sodium; potassium; powdered aluminum, zinc, beryllium; hydrochloric acid; hydrofluoric acid.		
Conditions to avoid		Open flames and high temperature		
Hazardous reaction/decomposition products		It emits decomposition products: carbon dioxide; toxic chlorine; fluorine; phosgene; carbonyl fluoride; hydrofluoric acid; hydrochloric acid.		
6. HEALTH HAZARD DATA				
Effects of exposure/ Symptoms		Skin, Eyes, Inhalation ,Ingestion		
		Severely irritating to respiratory tract. A compressed gas which can cause frostbite. Also Causes: asphyxiation, rapid / irregular breathing, headache, fatigue nausea, vomiting, giddiness, exhaustion, unconsciousness, convulsions, death. Chronic Effects: irregular heartbeat.		

7. TOXICOLOGICAL INFORMATION			
	LD 50 / LC50	43,200µg/kg	
	Exposure Limit	OSHA(PEL): NA, TLV(ACGIH):1,000 ppm	
	NFPA hazard signal	Health-1, Flammability-0, Reactivity-0	
8. ECOLOGICAL INFORMATION			
	No adverse ecological effects are expected. 48 hrs EC50 – Daphnia magna: 433 mg / L		
9. PREVENTIVE MEASURES/EXPOSURE CONTROL/PERSONAL PROTECTION			
	Engineering Controls	Provide adequate general and local exhaust ventilation.	
	Personal Protective Equipments	Rubber gloves, safety goggles should be used while handling liquid. Self Contained Breathing Apparatus to be used while handling large spillage.	
10. HANDLING & STORAGE			
	Normal Handling	Wear rubber gloves & air breather.	
	Storage Recommendation	Use adequate ventilation in storage area & store in dry area. Do not heat above 52°C	
11. EMERGENCY / FIRST AID MEASURE			
	Fire	Fire extinguishing medium	Water, use extinguishers suitable for surrounding fire
	Exposure / first aid measures	Inhalation	if inhaled, immediately remove to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
		Skin / Eyes	Affected part should be warm gradually using body heat or warm water. Eyes wash with water at least 15 minutes.
		Ingestion	Ingestion is not considered a potential route of exposure.
	Special procedure		
12. ACCIDENTAL RELEASE MEASURES			
	General Information	Use proper personal protective equipment as indicated in section 9	
	Spills / Release	Ventilate area especially low and enclosed places where heavy vapours might collect.	
13. DISPOSAL CONSIDERAIONS:			
	Dispose of in accordance with federal, state and local regulations. Allow gas to vent slowly to atmosphere in an unconfined area or exhaust hood.		
14. TRANSPORT INFORMATION			
	DOT / IMO shipping information Proper Shipping Name: CHLORODIFLUROMETHANE Hazard Class: 2.2 UN Number: 1018 DOT / IMO Label: NONFLAMMABLE GAS		
			
15. REGULATORY INFORMATION			
	Federal, state & International Regulations.		
16. NAME OF FIRM - NAVIN FLUORINE INTERNATIONAL LIMITED			
	Mailing address	Post Office - Bhestan, Surat, PIN 395 023, Gujarat, India	
	Telephone	+91-261-2890325 to 2890329	
	Fax	+91-261-2890288	
DISCLAIMER			
	Information contained in this Material Safety Data Sheet is believed to be reliable but no representation; guarantee or warranties of any kind are made as to its accuracy, suitability for a particular application or results to be obtained from them. It is up to the user / distributor to ensure that the information contained in the material safety data sheet is relevant to the product manufactured / handled or sold by him as the case may be. There would be no warranties expressed or implied in the respect of the adequacy of this document for any particular purpose.		