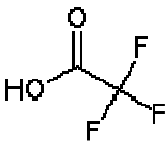


NAVIN FLUORINE INTERNATIONAL LTD		web: http://www.nfil.in mailto: speciality@nfil.in
		2nd Floor, Suntek Centre, 37/40, Subhash Road, Vile Parle (East), Mumbai-400057. India.

PRODUCT SPECIFICATION	
Title: TRI FLUORO ACETIC ACID (C ₂ HO ₂ F ₃)	Document No. : NFIL/QC /SPEC/FP/029/00
	Effective Date : 05/11/2008

Material Code	: SPE005200
Major Packing	: UN-Certified /MS-HDPE drum 200 / 250Kg
Storage Specifications	: Stored in dry condition at room temperature in well closed container.
Structural Formula	: 
Molecular Formula	: C ₂ HF ₃ O ₂
Molecular Weight	: 114.02
Synonyms	: Perfluoroacetic acid; Trifluoroethanoic acid

Sr. No.	TEST	SPECIFICATION
		Normal Quality
Product Specification:		
1	Appearance / Description	Clear, colorless liquid
2	Moisture (By KF)	00.50% Max.
3	Purity (By Titrimetry)	98.50% Min.
4	Sulphate as H ₂ SO ₄	00.50% Max.
5	Chloride as HCl	00.50% Max.

- Customer should discuss with business unit at speciality@nfil.in for the other requirements than specified.
- Analytical Method No. **NFIL/QC/WI/FP/029**



NAVIN FLUORINE
INTERNATIONAL LIMITED

MATERIAL SAFETY DATA SHEET (MSDS)

Trifluoroacetic acid, 99%

1. CHEMICAL IDENTITY			
Chemical Name	Trifluoroacetic acid, 99%		
Synonym	TFA		
Formula	C ₂ HF ₃ O ₂		
2. COMPOSITION / INFORMATION ON INGREDIENTS			
Ingredients name: Trifluoroacetic acid, C.A.S. No 76-05-1			
3. PHYSICAL / CHEMICAL DATA			
Boiling Point	72 °C @ 760 mmHg	Vapour Pressure at 25 °C	107 mbar @ 25 °C
Melting Point	-15 to -15.3 °C	Solubility in water	Miscible.
Vapour Density, (Air = 1)	3.9	Appearance	colourless
Specific Gravity/Density	1.535g/cm ³	Odour	pungent odour
pH (100g/l aq.sol.)	ca.2	Other	----
Physical state	Clear liquid		
4 FIRE / EXPLOSION HAZARD DATA			
Flammability: Non Flammable	LEL%	Not applicable.	Flash Point: Not applicable.
Auto Ignition Temp: Not applicable.	UEL%	Not applicable.	
TDG Flammability	NA		
Explosion Sensitivity to Impact	NA		
Explosion Sensitivity to static electricity	NA		
Hazardous Combustion Product	NA		
Hazardous Polymerization	Has not been reported.		
Combustible liquid	NA	Oxidizer	NA
Flammable material	NA	Organic Peroxide	NA
Pyrophoric material	NA	Corrosive	Yes
Explosive material	NA	Other	-----
5. STABILITY & REACTIVITY DATA			
Chemical stability	Stable under normal temperatures and pressures.		
Incompatibility	Oxidizing agents, reducing agents, bases, metals, acids, caustics (e.g. ammonia, ammonium hydroxide, calcium hydroxide, potassium hydroxide, sodium hydroxide, and alkalies).		
Conditions to avoid	Incompatible materials, light, exposure to moist air or water, heat.		
Hazardous decomposition products	Carbon monoxide, carbon dioxide, hydrogen fluoride.		
6. HEALTH HAZARD DATA			
Route of entry	Skin, Eyes, Inhalation, Ingestion.		
	Eye: Causes severe eye burns. May cause blindness. Causes redness and pain. Skin: Causes skin burns. Causes redness and pain. Prolonged contact may lead to necrosis. Ingestion: Harmful if swallowed. Causes gastrointestinal tract' burns. May cause perforation of the digestive tract. Causes cough, sore throat, chest pain, and lightheadedness		

		Inhalation: Harmful if inhaled. Causes chemical burns to the respiratory tract. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Chronic inhalation may cause chronic bronchitis.
7. TOXICOLOGICAL INFORMATION		
	LD 50 / LC50	Inhalation, mouse: LC50 = 13500 mg/m ³ ; Inhalation, rat: LC50 = 10 gm/m ³ .
	Permissible Exposure Limit-OSHA	NA
8. ECOLOGICAL INFORMATION :		
	Ecotoxicity Daphnia: EC50 = 55 mg/l; 24H.	
9. PREVENTIVE MEASURES/EXPOSURE CONTROL/PERSONAL PROTECTION		
	Engineering Controls	Facilities storing or utilizing this material should be equipped with an eye wash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
	Personal Protective Equipments	Protective gloves, protective goggles, lab coat, aprons, respirators.
10. HANDLING & STORAGE		
	Normal Handling	Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Use only in a chemical fume hood. Avoid contact with skin and eyes.
	Storage Recommendation	Store in a cool, dry place. May corrode glass. Store in a tightly closed appropriate container.
11. EMERGENCY / FIRST AID MEASURE		
	Fire	Fire extinguishing medium Use extinguishing media most appropriate for the surrounding fire
	Exposure/first aid measures	Inhalation Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
		Eyes Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
		Skin Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Get medical aid.
		Ingestion If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
	Special procedure	Use approved self contained positive pressure breathing apparatus with full face piece and protective clothing.
12. ACCIDENTAL RELEASE MEASURES		
	General Information	Use proper personal protective equipment as indicated in section 9
	Spills / Leaks	Stop the leak if it is without risk. Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Use water spray curtain to divert vapour drift.
13. DISPOSAL CONSIDERAIONS:		
	Dispose of in a manner consistent with federal, state, and local regulations.	
14. TRANSPORT INFORMATION :		
	Shipping Name: TRIFLUOROACETIC ACID Hazard Class (DOT): 8 Corrosive liquid	

UN Number: 2699
Packing Group: I
Hazard Label



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
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