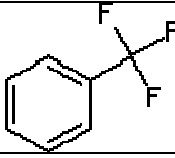


NAVIN FLUORINE INTERNATIONAL LTD		web: http://www.nfil.in mailto: speciality@nfil.in
		2nd Floor, Suntek Centre, 37/40, Subhash Road, Vile Parle (East), Mumbai-400057. India.

PRODUCT SPECIFICATION	
Title: BENZOTRIFLUORIDE (C ₇ H ₅ F ₃)	Document No. : NFIL/QC /SPEC/FP/005/00 Effective Date : 05/11/2008

Material Code	: SPE005100
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 ₇ H ₅ F ₃
Molecular Weight	: 146.11
Synonyms	: BTF; Trifluoromethyl benzene; Alpha,Alpha,Alpha-Trifluoro-Benzene,

Sr. No.	TEST	SPECIFICATION
Product Specification:		
1	Appearance / Description	Clear, colorless liquid
2	Moisture (By KF)	00.50% Max.
3	Purity (By GC)	99.50% Min.
4	Total Impurities	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/005**.



NAVIN FLUORINE
INTERNATIONAL LIMITED

MATERIAL SAFETY DATA SHEET (MSDS)

Benzotrifluoride

1. CHEMICAL IDENTITY

Chemical Name	Benzotrifluoride
Synonym	Benzene, trifluoromethyl; BTF; Toluene, alpha,alpha,alpha-trifluoro-
Formula	C7H5-F3

2. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients name: Benzotrifluoride, C.A.S. No 98-08-8

3. PHYSICAL / CHEMICAL DATA

Boiling Point	102 °C	Vapour Pressure at 20 deg C	31 mm Hg
Melting Point	-29 °C	Solubility in water	Negligible
Vapour Density (Air = 1)	5	Appearance	Water white liquid
Specific Gravity (Water=1)	1.185	Odour	Aromatic odour
pH (5% Soln.)	Not available	Other	----
Physical state	liquid		

4. FIRE / EXPLOSION HAZARD DATA

Flammability	Yes	LEL%	Not available	Flash Point : 12 °C
Auto Ignition Temp.	Not available	UEL%	Not available	
TDG Flammability		NA		
Explosion Sensitivity to Impact		NA		
Explosion Sensitivity to static electricity		Yes		
Hazardous Combustion Product		Carbon dioxide and carbon monoxide may form when heated to decomposition. Will generate toxic fumes of hydrogen fluoride and other organic fluorides when overheated. May decompose to form hydrofluoric acid and benzoic acid.		
Hazardous Polymerization		Will not occur.		
Combustible liquid		NA	Oxidizer	NA
Flammable material		Yes	Organic Peroxide	NA
Pyrophoric material		NA	Corrosive	NA
Explosive material		Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Contact with strong oxidizers may cause fire or explosion. Sensitive to static discharge.		

5. STABILITY & REACTIVITY DATA

Chemical stability	Stable under ordinary conditions of use and storage. Containers may burst when heated.
Incompatibility	Oxidizers
Conditions to avoid	Heat, flames, ignition sources and incompatibles.
Hazardous reaction/decomposition products	Carbon dioxide and carbon monoxide may form when heated to decomposition. Will generate toxic fumes of hydrogen fluoride and other organic fluorides when overheated. May decompose to form hydrofluoric acid and benzoic acid.

6. HEALTH HAZARD DATA

Effects of exposure/ Symptoms	Skin, Eyes, Inhalation ,Ingestion
	Eye: Causes eye irritation, redness, pain & blurred vision. Skin: Causes skin irritation. Redness, itching & pain. Ingestion: Harmful if swallowed. Symptoms may parallel those of inhalation. Causes irritation to the gastrointestinal tract. Inhalation: Inhalation of vapor can irritate respiratory tract. Causes central nervous system effects. Breathing high concentrations in air can cause lightheadedness, dizziness, weakness, nausea, and headache.

7. TOXICOLOGICAL INFORMATION			
	LD 50 / LC50	Inhalation Rat LC50 : 70810 mg/m ³ /4H Oral Rat LD50 : 15gm/kg	
	Permissible Exposure Limit-OSHA(PEL)	Not available.	
	NFPA hazard signal	Health: 3, Flammability: 3, Reactivity: 0	
8. ECOLOGICAL INFORMATION			
	Environmental Fate: No information found.		
	Environmental Toxicity: This material is expected to be toxic to aquatic life.		
9. PREVENTIVE MEASURES/EXPOSURE CONTROL/PERSONAL PROTECTION			
	Engineering Controls	Ventilation System: A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.	
	Personal Protective Equipments	Protective gloves, protective goggles, lab coat, respirators.	
10. HANDLING & STORAGE			
	Normal Handling	Protect against physical damage.. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be "No Smoking" areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.	
	Storage Recommendation	Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred	
11. EMERGENCY / FIRST AID MEASURE			
	Fire	Fire extinguishing medium	Dry chemical, foam or carbon dioxide. Water may be used to flush spills away from exposures and to dilute spills to non-flammable mixtures.
	Exposure/first aid measures	Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. CALL A PHYSICIAN.
		Skin / Eyes	Eye: Flush eyes with running water for several minutes, while keeping the eyelids wide open. Get medical attention immediately. Skin: In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Call a physician immediately.
		Ingestion	Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.
	Special procedure	In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Water spray may be used to keep fire exposed containers cool.	
12. ACCIDENTAL RELEASE MEASURES			
	General Information	Use proper personal protective equipment as indicated in section 9	
	Spills / Release	Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Provide ventilation. Use non-sparking tools & equipment	
13. DISPOSAL CONSIDERATIONS:			
	Dispose of in a manner consistent with federal, state, and local regulations.		

14. TRANSPORT INFORMATION**D.O.T. / I.M.O. / I.C.A.O.**

Shipping Name : BENZOTRIFLUORIDE

Hazard Class: 3

UN/NA Number: UN2338

Packing Group: II.

Hazard Class Label**15. REGULATORY INFORMATION****European Labeling in Accordance with EC Directives****Hazard Symbols:**

F N

Risk Phrases:

R 11 Highly flammable.

R 51 / 53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.

S 23 Do not inhale gas / fumes / vapour / spray.

S 61 Avoid release to the environment. Refer to special instructions / safety data sheets.

16. NAME OF FIRM - NAVIN FLUORINE INTERNATIONAL LIMITED

Mailing address	Post Office - Bhestan, Surat, PIN 395 023, Gujarat, India
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