

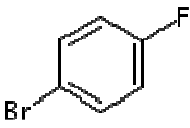
NAVIN FLUORINE INTERNATIONAL LTD		web: <a href="http://www.nfil.in">http://www.nfil.in</a> mailto: <a href="mailto:speciality@nfil.in">speciality@nfil.in</a>
		2nd Floor, Suntek Centre, 37/40, Subhash Road, Vile Parle (East), Mumbai-400057. India.

PRODUCT SPECIFICATION	
Title: 4-BROMO FLUORO BENZENE (C <sub>6</sub> H <sub>4</sub> BrF)	Document No. : NFIL/QC /SPEC/FP/008/00 Effective Date : 05/11/2008

Material Code : SPE005012

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<sub>6</sub>H<sub>4</sub>BrF

Molecular Weight : 175.00

Synonyms : p-Bromo Fluorobenzene;1-Bromo-4-Fluoro benzene

Sr. No.	TEST	SPECIFICATION
<b>Product Specification:</b>		
1	Appearance / Description	Clear, colourless liquid
2	Moisture (By KF)	00.20 %Max.
3	Purity (By GC)	99.00% Min.
4	Benzene	00.30% Max.
5	2-Bromo Benzene	00.25% Max.
6	4-Bromo Benzene	00.25% Max.
7	Bromo Benzene	00.20% Max.

- Customer should discuss with business unit at [speciality@nfil.in](mailto:speciality@nfil.in) for the other requirements than specified.
- Analytical Method No. **NFIL/QAD/WI/FP/007**.

**4-Bromofluorobenzene, 99%**

**1. CHEMICAL IDENTITY**

Chemical Name	4 -Bromofluorobenzene
Synonym	p-Bromofluorobenzene; p-Fluorobromobenzene; p-Fluorophenyl bromide; 1-Fluoro-4-bromobenzene
Formula	C6H4BrF

**2. COMPOSITION / INFORMATION ON INGREDIENTS**

Ingredients name 4 –Bromofluorobenzene (99%)	C.A.S. No 460-00-4 EC No :207-300-2
--	--

**3. PHYSICAL / CHEMICAL DATA**

Boiling Point	150°C @ 760 mm Hg	Vapour Pressure at 20°C	3.7 mm Hg
Melting Point	-16°C	Solubility in water	Insoluble
Vapour Density (Air = 1)	6.03	Appearance	Colourless clear.
Specific Gravity (Water=1)	1.593	Odour	Benzene like
pH (1% Soln.)	Not applicable	Other	----
Physical state	liquid		

**4. FIRE / EXPLOSION HAZARD DATA**

Flammability	Yes	LEL%	Not available	Flash Point : 53°C
Auto Ignition Temp. > 350°C		UEL%	Not available	
TDG Flammability		NA		
Explosion Sensitivity to Impact		NA		
Explosion Sensitivity to static electricity		NA		
Hazardous Combustion Product		NA		
Hazardous Polymerization		Will not occur.		
Combustible liquid	No	Oxidizer	No	
Flammable material	Flammable	Organic Peroxide	No	
Pyrophoric material	No	Corrosive	No	
Explosive material	No	Other		

**5. STABILITY & REACTIVITY DATA**

Chemical stability	Stable.
Incompatibility	Reactive oxidizing agents, Acid, Bases.
Conditions to avoid	Compatible materials
Hazardous reaction/decomposition products	Carbon monoxide, carbon di-oxide, Hydrogen fluoride, Hydrogen bromide

**6. HEALTH HAZARD DATA**


Effects of exposure/ Symptoms	Skin, Eyes, Inhalation ,Ingestion <b>Eye:</b> Causes eye irritation. <b>Skin:</b> Causes irritation with burning pain, itching and redness. May be Harmful if absorbed through skin. <b>Ingestion:</b> May cause gastrointestinal tract irritation with nausea, vomiting, and diarrhea. Ingestion may affect behavior/central nervous system and cause central nervous system depression, dizziness, tremor, ataxia, and may affect respiration and cause dyspnea. <b>Inhalation:</b> May cause respiratory tract irritation. Inhalation of vapors/mist may affect behavior/central nervous system and cause central nervous system depression, dizziness, tremor, ataxia, and may affect respiration and cause dyspnea or suffocation.
-------------------------------	---

7. TOXICOLOGICAL INFORMATION			
	LD 50 / LC50	ORAL (LD50): Acute: 2700 mg/kg [Rat]. MIST (LC50): Acute: 18000 mg/m 4 hours [Rat].	
	Permissible Exposure Limit-OSHA(PEL)	Not available	
	NFPA hazard signal	Health-2, Flammability-2, Reactivity-0	
8. ECOLOGICAL INFORMATION			
	Ecotoxicity: Not available		
9. PREVENTIVE MEASURES/EXPOSURE CONTROL/PERSONAL PROTECTION			
	Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.	
	Personal Protective Equipments	Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves	
10. HANDLING & STORAGE			
	Normal Handling	Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents	
	Storage Recommendation	Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame)	
11. EMERGENCY / FIRST AID MEASURE			
	Fire	Fire extinguishing medium	Dry Chemical Powder, Carbon dioxide, fire fighting foam
	Exposure/first aid measures	Inhalation	Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
		Skin / Eyes	<b>Eye:</b> Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention <b>Skin:</b> In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention
		Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear
		Antidote/Dosage	Calcium gluconate- 2.5% gel, 10 % (10ml) solution.
	Special procedure	In any fire or spill handling use NIOSH 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 / Release	Shut off leaks if without risk. Absorb the spill with inert material (vermiculate dry sand or earth), then place into chemical waste container. Remove all sources of ignition. Use spark proof tool.	

**13. DISPOSAL CONSIDERAIONS:**

Dispose of in a manner consistent with federal, state, and local regulations.

**14. TRANSPORT INFORMATION**

	IATA	IMO	RID / ADR
<b>Shipping Name</b>	FLAMMABLE, LIQUID N.O.S.	FLAMMABLE, LIQUID N.O.S.	FLAMMABLE, LIQUID N.O.S.
<b>Hazard Class</b>	3	3.3	-
<b>UN Number</b>	1993	1993	1993
<b>Packing Group</b>	III	III	-
<b>Dangerous Goods Code</b>	-	-	3(31C)
<b>Hazard Label (DOT)</b>			

**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.