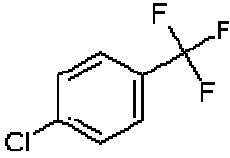


NAVIN FLUORINE INTERNATIONAL LTD		web: http://www.nfil.in mailto: speciality@nfil.in
		2nd Floor, Suntek Centre, 37/40, Subhash Road, Vile Parle (East), Mumbai-400057. India.

PRODUCT SPECIFICATION	
Title: 4-CHLORO BENZOTRIFLUORIDE (C ₇ H ₄ F ₃ Cl)	Document No. : NFIL/QC /SPEC/FP/022/00 Effective Date : 05/11/2008

Material Code	: SPE005105
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 ₄ ClF ₃
Molecular Weight	: 180.55
Synonyms	: p-Chlorobenzotrifluoride; 4-Chloro(trifluoromethyl)benzene; Chlorobenzotrifluoride

Sr. No.	TEST	SPECIFICATION
Product Specification:		
1	Appearance / Description	Clear, colourless liquid
2	Moisture (By KF)	00.50% Max.
3	Purity (By GC)	99.00% Min.
4	Total Impurities	01.00% Max.

- Customer should discuss with business unit at speciality@nfil.in for the other requirements than specified.
- Analytical Method No. **NFIL/QC/WI/FP/022**.



NAVIN FLUORINE
INTERNATIONAL LIMITED

MATERIAL SAFETY DATA SHEET (MSDS)

4-Chlorobenzotrifluoride

1. CHEMICAL IDENTITY

Chemical name	4-Chlorobenzotrifluoride
Synonym	p-chloro-a,a,a-trifluorotoluene
Chemical Formula	C1C6H4CF3

2. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients Name	4-Chlorobenzotrifluoride	CAS No.: 98-56-6
		EC No: 202-681-1

3. PHYSICAL / CHEMICAL DATA

Boiling Point	136-138°C@ 760mm Hg	Vapour Pressure	5.3mm at 20 °C
Melting Point	-36°C(-32.80°F)	Solubility in water	29ppm at23°C
Vapour Density	6.2	Appearance	colorless
Specific Gravity	1.3530 g/cm ³		
pH	Not applicable	Odour	Napththalenic
Physical State	Clear liquid	Other	

4. FIRE / EXPLOSION HAZARD DATA

Flammability	Yes	Flash Point	42.8°C (109 °F)
Auto ignition temperature	>650°C(>1202°F)	LEL	0.9
Explosion sensitivity to impact		UEL	10.5
Explosion sensitivity to static electricity			
Hazardous Combustion products			
Hazardous Polymerization	Has not been reported		
Pyrophoric material		Corrosive	
Organic Peroxide		Oxidizer	
Explosive material		Other	

5. STABILITY & REACTIVITY DATA

Chemical Stability	Stable under normal temperatures and pressures
Incompatibility	Strong oxidizing agents
Conditions to avoid	Incompatible materials
Hazardous reaction / decomposition products.	Hydrogen chloride, carbon monoxide, carbon dioxide, hydrogen fluoride gas.


6. HEALTH HAZARD DATA

Effects of exposure / symptoms	Eye: Causes eye irritation Skin: Causes skin irritation. Ingestion: May cause irritation of the digestive tract Inhalation: Causes respiratory tract irritation Chronic:
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7. TOXICOLOGICAL INFORMATION

LD 50 / LC50	Inhalation, mouse: LC50 =20 gm/m ³ ; Inhalation, rat:LC50 =22 gm/m ³ ; Oral, mouse: LD50 = 11500 mg/kg; Oral, rat: LD50 =13
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	gm/kg.	
Exposure Limit	United States OSHA: 2.5 mg/m ³ TWA (as F) (Fluorides)	
8. ECOLOGICAL INFORMATION		
Not available		
9. PREVENTIVE MEASURES / EXPOSURE CONTROL / PERSONAL PROTECTION		
Engineering Control	Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels	
Personal Protective Equipment	<p>Eyes: Wear chemical splash goggles</p> <p>Skin: Wear appropriate protective gloves to prevent skin exposure</p> <p>Clothing: Wear appropriate protective clothing to minimize contact with skin</p> <p>Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use</p>	
10. HANDLING & STORAGE		
Normal handling	Use spark-proof tools and explosion proof equipment. Avoid breathing dust, vapor, mist, or gas. Avoid contact with skin and eyes	
Storage Recommendation	Keep away from sources of ignition. Store in a cool, dry place. Store in a tightly closed container. Flammables-area	
11. EMERGENCY / FIRST AID MEASURES		
Fire	Fire Extinguishing Medium	Use water spray, dry chemical, carbon dioxide, or chemical foam
Exposure / First Aid Measure	Inhalation	Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen
	Skin	Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
	Eyes	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids.
	Ingestion	If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately
Special Procedure		
12. ACCIDENTAL RELEASE MEASURE		
Spills/Leaks	Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Remove all sources of ignition. Use a spark-proof tool.	
13. DISPOSAL CONSIDERATIONS		
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.		
14. TRASPOT INFORMATION		
Proper shipping Name	CHLOROBENZOTRIFLUORIDES	

Hazard Class	3
UN Number	2234
Packing Group	III
Hazard Label	

15. REGULATORY INFORMATION

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XI

Risk Phrases:

R 10 Flammable

R 36/37/38 Irritating to eyes, respiratory system and skin

Safety Phrases

S 16 Keep away from sources of ignition - No smoking

S 24/25 Avoid contact with skin and eyes

16. NAME OF FIRM - NAVIN FLUORINE INTERNATIONAL LIMITED

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DISCLAIMER

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