

CORPORATE OVERVIEW

Company Overview

A pioneer in the field of manufacturing, S.B.CHEMICALS is a company, which blends chemistry and engineering to develop, manufacture and market fluorine chemicals in India. We are committed to breaking new grounds in modern manufacturing technology to address critical fluorine resources, such as from wastes streams of fertilizer manufacturers and conserve and judiciously use India's resource.

Our R&D efforts have always been to develop useful industrial chemicals at cost effective and viable manner as well as reduce environmental load from harmful chemicals. Our people with their positive mindset, holistic approach and thorough professionalism are always ready to cater to the demands of various industrial sectors. Quality is what we aspire for in our every endeavor and have set records in satisfying our customers, through timely delivery and best approved quality. S.B.CHEMICALS has always tried to have positive or minimize negative impact on the environment, all national environmental and safety norms are followed very strictly and have been imbibed in every person of this organization.

History

The genesis of S.B.CHEMICALS can be traced back to Mr. Shyamlal Yadav, the Proprietor of the firm. Mr. Yadav, MSc graduate, had very humble beginnings from a farmer's family and started work in late 70's at Devidayal in Kalol as junior scientist. He worked at different positions and organizations and traveled all over India, before finally settling in Vapi. He started this company in 1993 and has progressively and single handedly put the company amongst the leading manufacturers of fluorine chemicals in India.

With more than 35 years of Mr. Yadav's industrial experience and almost two-decade-old company, we have catered niche chemicals to different industrial sectors, such as pharmaceuticals, catalysts, tyre and foundry chemicals. We are constantly working to develop new markets and segments as well as new products to drive up our bottom-line.

Vision

Vision Statement –“To be a company valued for its commitment to ethics, quality, value creation as well as environmental and social responsibility.’

Mission Statement –“To develop international standards, produce and market cost effective chemical products that conform to international quality of high standards.’

Quality Management System

S.B.CHEMICALS has an unwavering commitment to quality. The consistent success of our fluoride products is a testimony to our abiding belief that nothing can replace quality. It has stood us in good stead thus far and will continue to do so in the coming years.

At S.B.CHEMICALS, quality is understood to be a result of synergy and coordinated action between various activities that lead to the final product. Ensuring quality at every step, therefore, is the most important task for all our employees.

All procedures and work processes at S.B.CHEMICALS conform to strict international standards, such as ISO 9001: 2008. Furthermore, as a truly enlightened eco-conscious organization, we ensure that our products are developed in an environment-friendly manner and do not cause any harmful effects to the environment in their use as well.

Products List:

1. Sodium Cryolite (Synthetic Cryolite or Sodium Aluminium Fluoride)
2. Sodium Fluoride
3. Sodium Silico Fluoride
4. Potassium Fluoride
5. Potassium Titanium Fluoride
6. Potassium Fluoborate
7. Potassium Zirconium Fluoride
8. Potassium Cryolite (Potassium Aluminium Fluoride)
9. Potassium Silico Fluoride
10. Magnesium Silico Fluoride
11. Fluotitanic Acid
12. Fluozirconic Acid
13. Fluoboric Acid
14. Lead Fluoborate
15. Tin Fluoborate
16. Barium Sulphate
17. Sodium Aluminium Silicate (Zeolite)
18. Kaolin (Aluminium Silicate)

Sodium Cryolite

SPECIFICATION

Name of Product	:	Sodium Cryolite
Formula	:	Na_3AlF_6
Mol. Wt	:	209.97
CAS No.	:	15096-52-3

PHYSICAL PROPERTIES

Appearance	:	Off white free flowing powder
Solubility	:	Insoluble in water
Melting Point	:	1000 °C
Sieve Grading/Density:		
- 200 BSS (75 µm)	=	90 %

CHEMICAL PROPERTIES

% Na_3AlF_6	:	98.00 % Min.
% Fluorine	:	53.00 % Min.
% Aluminium	:	13 - 14 %
% Sodium as Na	:	31 - 34 %
% Moisture	:	00.10 % Max.
% Iron as Fe_2O_3	:	00.10 % Max.
% Silica as SiO_2	:	00.20 % Max

PACKING

25 / 50 Kg plastic woven bags with liner / Bulk packing of 1 MT

APPLICATION

Sodium Cryolite salts are used as solvent for bauxite in the electrolytic production of aluminum; other metallurgical applications such as foundry additives for aluminum foundry, sleeves, cover flux; filler for bonded abrasives; glass and enamel industries; in the manufacture of insecticides.

Sodium Fluoride

SPECIFICATION

Name of Product	:	Sodium Fluoride
Formula	:	NaF
Mol. Wt	:	41.99
Cas No.	:	7681-49-4

PHYSICAL PROPERTIES

Appearance	:	White free flowing powder
Solubility	:	4.3 g/100 ml@25°C
Melting Point	:	992 °C
Boiling Point	:	1704 °C
Sieve Grading/Density:		
- 60 BSS (251 µm)	=	100 %

CHEMICAL PROPERTIES

% NaF	:	99.00 % Min.
% Fluorine as F	:	44.80 % Min.
% Sodium as Na	:	53.90 % Min.
% Moisture	:	00.10 % Max.
% Iron as Fe₂O₃	:	00.10 % Max.
% Silica as SiO₂	:	00.10 % Max.
% Water insoluble	:	00.50% Max.

PACKING

25 / 50 Kg plastic woven bags with liner / Bulk packing of 1 MT

APPLICATION

Sodium Fluoride salts is used in the field of laundry souring, manufacturing enamels, manufacturing coated papers, wood preservative, foam production, opal glass, ore flotation and water fluoridation, in metallurgical applications such as foundry additives for aluminum foundry, cover flux, filler for bonded abrasives.

Sodium Silico Fluoride

SPECIFICATION

Name of Product	:	Sodium Silico Fluoride
Formula	:	Na ₂ SiF ₆
Mol. Wt	:	188
CAS No.	:	16893-85-9
UN No.	:	2674

PHYSICAL PROPERTIES

Appearance	:	White free flowing powder
Solubility	:	0.64g/100g water at 20°C
Decomposition Temp.	:	Starts at 500 oC
Sieve Grading/Density	:	
- 60 BSS (251 µm)	=	100 %

CHEMICAL PROPERTIES

% Na₂SiF₆	:	98.50 % Min.
% Fluorine as F	:	60.00 % Min.
% Sodium as Na	:	24.00 % Min.
% Si	:	15.00 % Min.
% Moisture	:	00.10 % Max.
% Iron as Fe₂O₃	:	00.10 % Max.
% Silica as SiO₂	:	00.10 % Max

PACKING

25 / 50 Kg plastic woven bags with liner / Bulk packing of 1 MT

APPLICATION

Sodium Silico Fluoride salts show similar application with sodium fluoride in the field of laundry souring, manufacturing enamels, manufacturing coated papers, wood preservative, foam production, opal glass, ore flotation and water fluoridation, in metallurgical applications such as foundry additives for aluminum foundry, cover flux, Si addition to aluminium, filler for bonded abrasives.

Potassium Fluoride

SPECIFICATION

Name of Product	:	Potassium Fluoride
Formula	:	KF
Mol. Wt	:	58.1
CAS No.	:	7789 - 23 - 3
UN No.	:	1812
Date of Manufacturing	:	12 March 2010
Date of Analysis	:	18 March 2010

PHYSICAL PROPERTIES

Appearance	:	White free flowing crystals
Solubility	:	92.3 g/100g water
Melting Point	:	858 °C
Boiling Point	:	1505 °C
Density	:	2.48 g/cm ³

CHEMICAL PROPERTIES

Properties	Reported	Permissible
% KF	: 99.10 %	98.50 % Min.
% Fluorine as F	: 32.40 %	32.20 % Min.
% Potassium as K	: 67.00 %	67.00 % Min.
% Moisture	: 00.39 %	00.50 % Max
% Iron as Fe₂O₃	: 00.10 %	00.10 % Max.
% Silica as SiO₂	: 00.10 %	00.10 % Max

APPLICATION

After HF, KF is the primary source of the fluoride ion for applications in manufacturing and in chemistry. In organic chemistry, KF is the preferred source of fluoride for the conversion of chlorocarbons into fluorocarbons. Such reactions usually employ polar solvents such as dimethyl formamide, ethylene glycol, and dimethyl sulfoxide. Potassium Fluoride is used in etching glass. It is used in chemical manufacturing for fluorination, flux for solder and insecticide formulations. It is used as a preservative and as an insecticide.

Potassium Titanium Fluoride

SPECIFICATION

Name of Product	:	Potassium Titanium Fluoride
Formula	:	K_2TiF_6
Mol. Wt	:	240.09

PHYSICAL PROPERTIES

Appearance	:	White free flowing crystalline powder
Solubility	:	insoluble in water
Melting Point	:	800°C
Sieve Grading/Density	:	
	- 18 BSS (853 μ m)	:100 %
	- 200 BSS (75 μ m)	:30 %

CHEMICAL PROPERTIES

% K_2TiF_6	:	98.00 % Min.
% Ti	:	19 – 20 %
% Fluorine as F	:	47.0 % Min.
% Potassium	:	34 – 36 %
% K_2SiF_6	:	1.00 % Max
% Moisture	:	0.10 % Max.
% Iron as Fe_2O_3	:	0.10 % Max.
% Silica as SiO_2	:	0.10 % Max

PACKING

25 / 50 Kg plastic woven bags with liner / Bulk packing of 1 MT

APPLICATION

Potassium Titanium Fluoride salts are used as components of fluxing and plating, as additives in arc welding rods, in metal treatment; grain refining agents in aluminium and manganese foundry; as active fillers in resin bonded abrasives, preparation of glazing frits.

Potassium Zirconium Fluoride

SPECIFICATION

Name of Product	:	Potassium Titanium Fluoride
Formula	:	K_2ZrF_6
Mol. Wt	:	283.42

PHYSICAL PROPERTIES

Appearance	:	White free flowing crystalline powder
Solubility	:	insoluble in water
Melting Point	:	800°C
Sieve Grading/Density	:	
- 18 BSS (853 μm)	:	100 %
- 200 BSS (75 μm)	:	30 %

CHEMICAL PROPERTIES

% K_2TiF_6	:	98.00 % Min.
% Zn	:	31 – 32 %
% Fluorine as F	:	40.0 % Min.
% Potassium	:	26 – 28 %
% K_2SiF_6	:	1.00 % Max
% Moisture	:	0.10 % Max.
% Iron as Fe_2O_3	:	0.10 % Max.
% Silica as SiO_2	:	0.10 % Max

PACKING

25 / 50 Kg plastic woven bags with liner / Bulk packing of 1 MT

APPLICATION

Potassium Zirconium Fluoride salts are used as components of fluxing and plating, as additives in arc welding rods, in metal treatment; grain refining agents in aluminium and manganese foundry; as active fillers in resin bonded abrasives, preparation of glazing frits.

Potassium Fluoborate (Potassium Boron Fluoride)

SPECIFICATION

Name of Product	:	Potassium Fluoborate
Formula	:	KBF ₄
Mol. Wt	:	125.91

PHYSICAL PROPERTIES

Appearance	:	White crystalline powder
Solubility	:	
Melting Point	:	530 °C
Sieve Grading/Density	:	
+ 200 BSS (75 µm)	=	50 %

CHEMICAL PROPERTIES

% KBF ₄	:	98.00 % Min.
% Boron	:	8.15 % Min
% Fluorine as F	:	59.0 % Min.
% Potassium	:	30 – 32 %
% Moisture	:	00.20 % Max.
% Iron as Fe ₂ O ₃	:	00.10 % Max.
% Silica as SiO ₂	:	00.10 % Max

PACKING

25 / 50 Kg plastic woven bags with liner / Bulk packing of 1 MT

APPLICATION

Potassium fluoroborate salts are used as components of fluxing and plating, as catalysts, in flame-retardant manufacture, in metal treatment; grain refining agents; as active fillers in resin bonded abrasives; in electrolytic generation of boron, preparation of glazing frits.

Potassium Cryolite (Potassium Aluminium Fluoride)

SPECIFICATION

Name of Product	:	Potassium Aluminium Fluoride
Formula	:	K_3AlF_6
Mol. Wt	:	258.28

PHYSICAL PROPERTIES

Appearance	:	Off white fine powder
Solubility	:	insoluble in water
Melting Point	:	570 °C
Sieve Grading/Density	:	
- 200 BSS (75 µm)	=	70 %

CHEMICAL PROPERTIES

% K_3AlF_6	:	98.00 % Min.
% Aluminium	:	15 -17 %
% Fluorine as F	:	45 % Min.
% Potassium	:	27 – 31 %
% Moisture	:	00.50 % Max.
% Iron as Fe_2O_3	:	00.10 % Max.
% Silica as SiO_2	:	00.30 % Max

PACKING

25 / 50 Kg plastic woven bags with liner / Bulk packing of 1 MT

APPLICATION

Potassium cryolite is used as active filler in resinbonded abrasives for metal treatment. It is also used for pyrotechnics. One of the major uses though is as components in coatings of welding rods and welding powders

Potassium Silico Fluoride

SPECIFICATION

Name of Product	:	Potassium Silico Fluoride
Formula	:	K_2SiF_6
Mol. Wt	:	220.27

PHYSICAL PROPERTIES

Appearance	:	Off white fine powder
Solubility	:	slightly soluble in water
Sieve Grading/Density	:	
- 100 BSS (152 μ m)	=	100 %

CHEMICAL PROPERTIES

% K_2SiF_6	:	98.00 % Min.
% Si	:	11 – 14 %
% Fluorine as F	:	51.0 % Min.
% Potassium	:	34 – 36 %
Free Acidity as H_2SiF_6	:	00.50 % Max
% Moisture	:	00.50 % Max
% Chloride	:	00.005 % Max
% Iron as Fe_2O_3	:	00.10 % Max
% Silica as SiO_2	:	00.30 % Max

PACKING

25 / 50 Kg plastic woven bags with liner / Bulk packing of 1 MT

APPLICATION

Potassium Silico Fluoride salts are used as components of fluxing and plating, as additives in arc welding rods, in metal treatment; grain refining agents; as active fillers in resin bonded abrasives, preparation of glazing frits.

Barium Sulphate

SPECIFICATION

Name of Product	:	Barium Sulphate
Formula	:	BaSO ₄
Mol. Wt	:	233.39
CAS No.	:	7727-43-7

PHYSICAL PROPERTIES

Appearance	:	Off White powder
Solubility	:	very slightly soluble in cold water
Melting Point	:	1580 °C
Boiling Point	:	Decomposes
Specific Gravity	:	4.5

CHEMICAL PROPERTIES

% BaSO₄	:	98.30 % Min.
% Barium as Ba	:	59.00 % Min.
% Free Ba₂CO₃	:	00.50 % Max.
% Moisture	:	00.15 % Max.
% Iron as Fe₂O₃	:	00.10 % Max.
Aqueous solution	:	Acidic

PACKING

25 / 50 Kg plastic woven bags with liner / Bulk packing of 1 MT

Magnesium Silico Fluoride

SPECIFICATION

Name of Product	:	Magnesium Silico Fluoride
Formula	:	MgSiF ₆ .7H ₂ O
Mol. Wt	:	178.15

PHYSICAL PROPERTIES

Appearance	:	White Granular Crystals	
Physical State	:	Solid	
Odor	:	Odorless	
Specific Gravity (H₂O = 1):	:	1.79/cc	
Solubility (weight %)	:	64.8 g/100 g at 64 °F	
pH	:	3.1 (1 % Aqueous Solution)	
Melting Point	:	120 °C Decomposes	
Sieve Analysis			
- 18 BSS (853 μm) :	100 %	- 200 BSS (75 μm) :	30 %

CHEMICAL PROPERTIES

% MgSiF ₆ .6H ₂ O	=	98%
% MgSO ₄ .7H ₂ O	=	0.5%
% H ₂ SiF ₆	=	0.2%
% H ₂ O	=	0.6%
% Water Insoluble	=	0.25%
% SiO ₂	=	0.05%
% MgF ₂	=	0.15%

PACKING

25 / 50 Kg plastic woven bags with liner / Bulk packing of 1 MT

APPLICATION

Magnesium Silico Fluoride salts are used as components of fluxing and plating, as additives in arc welding rods, in metal treatment; grain refining agents in aluminium and manganese foundry; as active fillers in resin bonded abrasives, preparation of glazing frits.

Fluotitanic Acid

SPECIFICATION

Name of Product	:	FLUOTITANIC ACID
Formula	:	H_2TiF_6
Molecular Weight	:	163.87

PHYSICAL PROPERTIES

Appearance	:	Clear oily liquid
Solubility	:	soluble in water and organic solvents
Odor	:	Odorless

CHEMICAL PROPERTIES

% Fluotitanic Acid	:	60 %
% H_2SiF_6	:	0.2%
% HF	:	2 %
Lead	:	0.5 g/L Max.
Sulphate	:	0.01 g/L Max.
Nickel	:	00.002 g/L Max.
Chloride	:	00.05 g/L Max.
Density	:	1.65 g/cc

PACKING

40/200 Kg plastic barrel

APPLICATION

H_2TiF_6 is used as electroplating agent, metal cleaning and making diazo salts.

Fluozirconic Acid

SPECIFICATION

Name of Product	:	FLUOTITANIC ACID
Formula	:	H_2ZrF_6
Molecular Weight	:	163.87

PHYSICAL PROPERTIES

Appearance	:	Clear oily liquid
Solubility	:	soluble in water and organic solvents
Odor	:	Odorless

CHEMICAL PROPERTIES

% Fluozirconic Acid	:	60 %
% H_2SiF_6	:	0.2%
% HF	:	2 %
Lead	:	0.5 g/L Max.
Sulphate	:	0.01 g/L Max.
Chloride	:	00.05 g/L Max.
Density	:	1.85 g/cc

PACKING

40/200 Kg plastic barrel

APPLICATION

H_2TiF_6 is used as electroplating agent, metal cleaning and making diazo salts.

Fluoboric Acid

SPECIFICATION

Name of Product	:	FLUOBORIC ACID
Formula	:	HF ₄

PHYSICAL PROPERTIES

Appearance	:	Clear colourless liquid
Solubility	:	soluble in water and organic solvents
Odor	:	Odorless

CHEMICAL PROPERTIES

% Fluoboric Acid	:	52 % w/v min.
HF₄	:	535 g/L
Free Boric Acid	:	60 g/L Max
Lead	:	0.5 g/L Max.
Sulphate	:	0.01 g/L Max.
Iron	:	00.04 g/L Max.
Copper	:	00.003 g/L Max.
Zinc	:	00.003 g/L Max.
Nickel	:	00.002 g/L Max.
Chloride	:	00.03 g/L Max.
Density	:	1.2895 g/cc

PACKING

40/200 Kg plastic barrel

APPLICATION

HF₄ is used as a catalyst in for alkylations and polymerizations. It is used in electroplating, metal cleaning and making diazo salts. Other major uses are in oil well stimulation of drilling crude oil.

Lead Fluoborate

SPECIFICATION

Name of Product : LEAD FLUOBORATE
Formula : $\text{Pb}(\text{BF}_4)_2$

PHYSICAL PROPERTIES

Appearance : Clear colourless liquid
Solubility : soluble in water and organic solvents
Odor : Odorless

CHEMICAL PROPERTIES

% Lead Fluoborate : 50.00 % min.
 $\text{Pb}(\text{BF}_4)_2$: 540 g/L
Free Boric Acid : 60 g/L Max
Lead : 0.5 g/L Max.
Sulphate : 0.01 g/L Max.
Iron : 00.04 g/L Max.
Copper : 00.003 g/L Max.
Zinc : 00.003 g/L Max.
Nickel : 00.002 g/L Max.
Chloride : 00.03 g/L Max.
Density : 1.8335 g/cc

PACKING

40/200 Kg plastic barrel

APPLICATION

$\text{Pb}(\text{BF}_4)_2$ is used in electroplating, metal cleaning and making diazo salts.

Tin Fluoborate (Stannous Fluoborate) SPECIFICATION

Name of Product	:	Tin (II) Fluoborate, Stannous Fluoborate
Formula	:	$\text{Sn}(\text{BF}_4)_2$
Molecular Weight	:	292.2

PHYSICAL PROPERTIES

Appearance	:	Clear colourless liquid
Solubility	:	soluble in water and organic solvents
Odor	:	Odorless

CHEMICAL PROPERTIES

% Tin Fluoborate	:	50.00 % min.
Free Boric Acid	:	60 g/L Max
Lead	:	0.5 g/L Max.
Sulphate	:	0.01 g/L Max.
Iron	:	00.04 g/L Max.
Copper	:	00.003 g/L Max.
Zinc	:	00.003 g/L Max.
Nickel	:	00.002 g/L Max.
Chloride	:	00.03 g/L Max.
Density	:	1.625 g/cc

PACKING

40/200 Kg plastic barrel

APPLICATION

$\text{Pb}(\text{BF}_4)_2$ is used in electroplating, metal cleaning and making diazo salts.

Sodium Aluminium Silicate

Sodium aluminosilicate refers to compounds which contain of sodium, aluminium, silicon and oxygen, and which may also contain water. These include synthetic amorphous sodium aluminosilicate, a few naturally occurring minerals and synthetic zeolites. As it is manufactured with a range of compositions and so is not strictly a chemical compound with a fixed stoichiometry.