

MANUFACTURER OF FLAME RETARDANT CHEMICALS

FR & FRLS CHEMICALS



OUR PRODUCT RANGE

- Aluminium Trihydrate (ATH)
- Magnesium Hydroxide
- Aluminium Hydroxide (Precipitated ATH)
- Zinc Borate
- FLAMEX / Flame Guard
- FAM-501
- Molybdenum Trioxide
- Antimony Trioxide
- Decabromodiphenyl Ethane (DBDPE)



Profile

Established in the year 1992, NIKNAM CHEMICALS PRIVATE LIMITED is engaged in manufacturing, exporting, and supplying of quality environment-friendly FLAME RETARDANT CHEMICALS for more than 30 years and now has acquired the status of the largest manufacturer of a variety of FLAME RETARDANT CHEMICALS in India. The company has been concentrating on developing new environment-friendly Flame Retardants and Smoke Suppressants in close cooperation with various major industries and research institutes. We have been bringing in new technology and new material in process of product development, and therefore have established a strong and stable R&D process.

Our technical innovation and high product Quality receives recognition and trust of the customers, which leads the company to a continuous growth in the market of Flame Retardant Chemicals and creation of its own brand name NIKNAM. Being in this industry for the last two decades our products are readily & regularly accepted & consumed by various major manufacturing industries all across India & the World.

The company regularly upgrades its technology and have established a complete quality control system for monitoring product quality to ensure the consistency and stability of the products which meets the customer's requirements. Possessing a group of experts of prestige and long industrial experience, we have established a wide range of markets for our products.

ALUMINIUM TRIHYDRATE

ALUMINIUM TRIHYDRATE (ATH) is a very finely grounded product having a uniform and controlled particle size distribution. Aluminium Trihydrate is the most effective low cost Flame Retardant filler and is mainly used as a FLAME RETARDANT & SMOKE SUPPRESSANT in various Plastics and Rubber Applications.

TYPICAL CHEMICAL ANALYSIS

| PROPERTIES | ANALYSIS |
|--------------------------------|---------------|
| Al (OH) ₃ | 99.50 % (Min) |
| Al ₂ O ₃ | 64.00 % (Min) |
| Fe ₂ O ₃ | 0.016 % (Max) |
| SiO ₂ | 0.016 % (Max) |
| Na ₂ O (Total) | 0.25 % (Max) |

TYPICAL PHYSICAL PROPERTIES

| PROPERTIES | ANALYSIS |
|--|----------------------------------|
| Specific Gravity | 2.40 ± 0.02 |
| Loss on Ignition (1100°C) | 34.50 % (Max) |
| Moisture Content (105°C) | 0.50 % (Max) |
| Coatings Available | Silane & Stearic |
| Average Particle Size*(d ₅₀) | Ranges from 2.00 - 80.00 Microns |
| *(By Laser Diffraction) | (As per Grade) |



MAGNESIUM HYDROXIDE

MAGNESIUM HYDROXIDE is a very finely grounded product having an extremely uniform and narrow particle size distribution. It is considered as a non halogenated, environment friendly and non toxic mineral based flame retardant & smoke suppressant. It is used in various plastics & rubber applications.

The initial Decomposition Temperature of Magnesium Hydroxide is 320° C making it suitable for applications where the usage of Aluminium Trihydrate (ATH) has a limitation due to higher polymer processing temperature of more than 180° C.

Due to its higher Decomposition Temperature than ATH, it is being used as an effective smoke suppressant in conjunction with ATH.

TYPICAL CHEMICAL ANALYSIS

| PROPERTIES | ANALYSIS |
|--------------------------------|---------------|
| Mg (OH) ₂ | 93.00 % (Min) |
| MgO | 62.00 % (Min) |
| CaO | 2.00 - 2.50 % |
| SiO ₂ | 1.00 - 1.50 % |
| Fe ₂ O ₃ | 0.10 - 0.20 % |

TYPICAL PHYSICAL PROPERTIES

| PROPERTIES | ANALYSIS |
|--|----------------------------------|
| Specific Gravity | 2.36 ± 0.02 |
| Loss on Ignition (1100°C) | 31.00 % (Max) |
| Moisture Content (105°C) | 0.50 % (Max) |
| Coatings Available | Silane & Stearic |
| Average Particle Size*(d ₅₀) | Ranges from 1.50 - 20.00 Microns |
| *(By Laser Diffraction) | (As per grade) |



ALUMINIUM HYDROXIDE

ALUMINIUM HYDROXIDE is a Super Fine Precipitated Specialty ATH. Finely Precipitated specialty ATH is one of the Largest Consumed Flame Retardant & Smoke Suppressant across the World by volumes in various applications. It is an environment friendly and non toxic mineral based flame retardant. Large volumes of finely precipitated ATH are used in plastics and rubber compounding for imparting flame retardancy along with smoke suppression property making it an effective smoke suppressant and flame retardant.

Its extremely uniform, controlled and narrow particle size distribution results in improved compounding performance, better powder flowability, higher dosage capability, improved extrusion speed, better thermal stability along with better output and finishing of the end product.

TYPICAL CHEMICAL ANALYSIS

| PROPERTIES | ANALYSIS |
|--------------------------------|---------------|
| Al (OH) ₃ | 99.60 % (Min) |
| Al ₂ O ₃ | 64.50 % (Min) |
| Fe ₂ O ₃ | 0.001 % (Max) |
| SiO ₂ | 0.001 % (Max) |
| Na ₂ O (Soluble) | 0.09 % (Max) |

TYPICAL PHYSICAL PROPERTIES

| PROPERTIES | ANALYSIS |
|--|---------------------|
| Whiteness | 95.00 % (Min) |
| Specific Gravity | 2.40 ± 0.02 |
| Loss on Ignition (1100°C) | 34.50 % (Max) |
| Moisture Content (105°C) | 0.40 % (Max) |
| Bulk Density (Untapped) | 0.40-0.45 gram/cc |
| Sieve Analysis (at 325 Mesh) | Nil |
| Average Particle Size*(d ₅₀) | 1.70 - 2.10 Microns |
| *(By Laser Diffraction) | |



ZINC BORATE

ZINC BORATE is a highly effective multifunctional flame retardant synergist being used as a flame retardant and smoke suppressant in a wide range of applications. It is an environment friendly flame retardant as it is non toxic in nature and does not generate any toxic/corrosive gases. It is used in plastics, rubber, textile, paint, adhesive, pigments and ceramic industries. Zinc Borate also replaces Antimony Trioxide & Decabromodiphenyl Ethane partially (or even completely in various plastics and rubber applications.

Zinc Borate is also known as ZB2335, Borate Flame Retardant and Fire Break Zinc Borate.

TYPICAL CHEMICAL ANALYSIS

| PROPERTIES | ANALYSIS |
|---|----------------|
| ZnO Content (By Weight) | 37.50 ± 1.50 % |
| B ₂ O ₃ Content (By Weight) | 48.00 ± 1.50 % |

TYPICAL PHYSICAL PROPERTIES

| PROPERTIES | ANALYSIS |
|--|---------------------|
| Appearance | Fine White Powder |
| Specific Gravity | 2.70 ± 0.15 |
| Sieve Analysis (at 325 Mesh) | Nil |
| Loss on Ignition | 14.50 ± 1.50 % |
| Moisture Content | 0.40 % (Max) |
| Average Particle Size*(d ₅₀) | 2.00 - 3.00 Microns |
| *(By Laser Diffraction) | |



FLAMEX / FLAME GUARD

FLAMEX is a proprietary one pack flame retardant synergist treated with processing & dispersion aids which imparts superior flame retardant properties as compared to traditional flame retardant synergists. It can meet the required UL standard and also achieve the **V0, V1, V2** flammability rating.

We have various grades of **FLAMEX** which are **HALOGENATED** and **NON HALOGENATED** as per requirements in which polymer it has to be used and what properties of final product is required.

Various Applications of FLAMEX are :-

- Polypropylene (PP)
- Polyethylene (PE)
- Engineering Plastics
- XLPE
- PBT
- UPR
- HDPE
- PPCP
- PU Foam
- Polyolefins
- Adhesive Tapes
- Non woven Fabrics
- ABS
- PVC
- EVA
- Rubber
- Nylon
- PC
- LDPE
- PPHP
- EPF Foam
- Textiles
- Leather Cloths
- Nylon 66 etc.



FAM - 501

FAM-501 is an One Pack Flame Retardant & Smoke Suppressant developed for Plasticized PVC applications. It is an Aluminum & Magnesium inorganic complex synergist treated with dispersing aids which results in the superior dispersion, processability and compatibility with the polymer hence imparting superior flame retardant & Smoke Suppressant properties as compared to the other traditional synergists especially in PVC. Synergy of FAM-501 has also been reported along with high dosage of ATH in FRLS PVC Formulations.

TYPICAL SPECIFICATION**PROPERTIES**

Appearance
Moisture (105°C)
Bulk Density (Untapped)
Specific Gravity
Sieve Analysis (at 325 Mesh)
Average Particle Size*(d₅₀)
*(By Laser Diffraction)

ANALYSIS

White Powder
0.40 % (Max)
0.40 - 0.45 gram/cc
2.38 ± 0.02
Nil
1.50 - 2.50 Microns



MOLYBDENUM TRIOXIDE

MOLYBDENUM TRIOXIDE is a high purity free flowing powder and is the most effective Smoke Suppressant used in a variety of applications.

Molybdenum Trioxide is used in various formulations in order to achieve reduced smoke levels along with high level of flame retardancy, specially in rigid and flexible PVC applications.

TYPICAL CHEMICAL ANALYSIS

PROPERTIES

Assay as (MO₃)
Molybdenum (MO)
Alkalis (Na + K)
Copper (Cu)
Silica (Si)

ANALYSIS

99.50 % (Min)
66.00 % (Min)
0.010 % (Max)
0.010 % (Max)
0.010 % (Max)



TYPICAL PHYSICAL PROPERTIES

PROPERTIES

Specific Gravity
Sieve Analysis (at 325 Mesh)
Moisture Content (105°C)
Average Particle Size*(d₅₀)
*(By Laser Diffraction)

ANALYSIS

5.00 ± 0.25
Nil
0.50 % (Max)
1.50 - 2.50 Microns



ANTIMONY TRIOXIDE

ANTIMONY TRIOXIDE is mainly used in fire retardant formulations for Plastics, Rubber, FRP, Paints, Unsaturated Polyester Resin (UPR), Textiles etc. applications.

ANTIMONY TRIOXIDE is used as a synergist to enhance the activity of Halogenated flame retardants by stepwise releasing the halogenated radicals to retard the flame during the vapour phase chain reaction.

TYPICAL CHEMICAL ANALYSIS

PROPERTIES

Sb₂O₃
Pb
Fe
As

ANALYSIS

99.80 % (Min)
0.005 % (Max)
0.004 % (Max)
0.005 % (Max)

TYPICAL PHYSICAL PROPERTIES

PROPERTIES

Specific Gravity
Sieve Analysis (at 325 Mesh)
Moisture Content (105°C)
Average Particle Size*(d₅₀)
*(By Laser Diffraction)

ANALYSIS

4.75 ± 0.25
Nil
0.50 % (Max)
1.00 - 2.00 Microns



DECABROMODIPHENYL ETHANE (DBDPE)

DECABROMODIPHENYL ETHANE (DBDPE) is a highly efficient flame retardant synergist containing aromatic bromine. It has high bromine content along with excellent thermal stability, good UV resistance and low blooming characteristic which makes it a preferred product of choice to be used as a flame retardant in various high temperature applications.

DBDPE is used as a flame retardant in a wide variety of materials which includes PE, LDPE, HDPE, HIPS, PP (Homopolymers and Copolymers), Elastomers, PBT, ABS, Epoxy, Polyamides, Poly Carbonate, Nylon, Nylon-66, PE/EVA, XLPE/EVA, NBR, SBR, UPE, Styrenic Polymers, Epoxy Resin, UPR, Polyester, Engineering Resins, Elastomers etc.

TYPICAL PROPERTIES

PROPERTIES

Appearance
Moisture Content (105°C)
Iron
Melting Point
Volatiles
Bromine Content
Average Particle Size*(d₅₀)
*(By Sedigraph)

ANALYSIS

White Powder
0.30 % (Max)
30 PPM (Max)
345°C (Min)
0.10 % (Max)
80.00 % (Min)
2.00 - 3.00 Microns



QUALITY ASSURANCE

As per our quality policies, we have imbibed quality in all our business operations. We ensure all our production and post production processes are carried out under the supervision of experienced quality controllers. Our penchant to ensure timely delivery of the products in the lead-time span provides us an additional advantage. With our stringent quality norms and latest quality instruments, we assure our clients with international quality standard products.

LATEST TECHNOLOGY

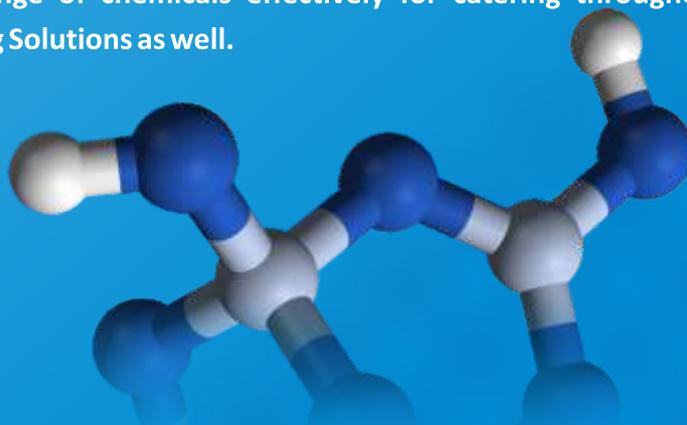
We are driven by the goal of manufacturing quality chemicals that are used in various industrial applications. Usage of latest techniques in manufacturing and quality assessment ensures that all products comply with international standards of safety & usability and find usage worldwide. The combination of data analysis diagrams and new techniques can be a straight forward and rapid method of simultaneously optimizing polymer formulations for both flame retardation and smoke suppression.

LAB TESTING

To ensure flawless products, we assure stringent lab testing using various techniques. Our entire operations facilitate in meeting the best norms of our products. We have a team of highly skilled professionals engaged in product testing for the final quality approval. Our laboratory procedures have been personally reviewed by number of our clients who have expressed complete satisfaction.

WAREHOUSING & PACKAGING

We have a spacious warehouse to easily store. Our warehouse is properly segregated to easily accommodate chemicals as per their categories separately. We further follow preventive measures in storing our wide range of products such as storing chemicals under proper labeling at its designated places. Our trained professionals further check the whole range for any spillage and leakage of chemicals in the warehouse. Backed by our successful inventory management, we are able to pack our range of chemicals effectively for catering throughout the globe providing customized Packaging Solutions as well.



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