

Super Fine Aluminum Hydroxide For Filler

Product Overview

This product is an ultrafine aluminum hydroxide powder produced by precipitation method with high-purity sodium aluminate solution as raw material, which has the characteristics of small particle size, good crystal shape, high whiteness, high chemical purity, narrow particle size distribution, low conductivity, etc. As an environmentally friendly flame retardant filler, micronized aluminum hydroxide is widely used in low-smoke halogen-free cables, silicone rubber, lithium battery separators, foam insulation materials, papermaking fillers, thermoplastic PVC, etc.

Product Features Advantages

- (1) Materials used for the insulation and protective layers of cables; and suitable for different voltages.
- (2) Used in thermoplastic PVC products, it not only has a flame retardant effect but also has a smoke suppression effect.
- (3) Used in lithium battery separator coating materials, it has heat resistance, high temperature resistance and insulation effects.

Product Features Advantages

- (4) It can improve the resistance of silicone rubber to leakage tracking and corrosion.
- (5) It has good compatibility with brighteners and good ink absorption. It can improve the whiteness, opacity, smoothness and ink absorption of coated paper. It can be used in the production of high-grade paper such as thermal paper, illustrated newspaper, photographic paper and high-grade dictionaries.
- (6) Used in the insulation of foam materials, it can provide fire resistance and consistent pore size.

Flame Retardant Mechanism

Dehydration absorbs heat at 200-350°C, inhibiting the temperature rise of the polymer.

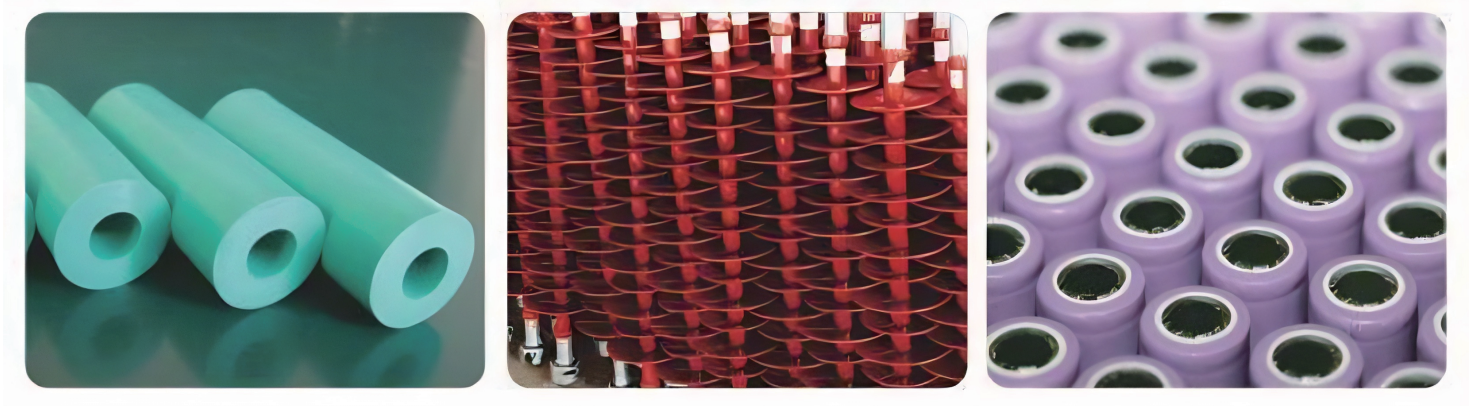
After $\text{Al}(\text{OH})_3$ is dehydrated, an Al_2O_3 protective film is formed on the surface of the combustible material, isolating oxygen to prevent further combustion.

Aluminum hydroxide flame retardant produces strong dehydrating substances (transitional aluminum oxide) under combustion conditions, which carbonizes plastics and is not easy to produce combustible volatiles, thereby preventing the spread of flames.

After filling $\text{Al}(\text{OH})_3$ in organic polymers such as rubber, plastics and resins, the concentration of combustible substances in the composite material is reduced; in addition, the water vapor released after $\text{Al}(\text{OH})_3$ is decomposed by heat dilutes the concentration of combustible gases and oxygen, which can effectively slow down or prevent combustion.

Main Uses of The Product

Product Model	Cable Materials	Silicone Rubber	Lithium Battery Separator	Copper Clad Laminate	Foaming Materials	Papermaking	Thermoplastic PVC
H-WF-1-LS	●	●	●	●	●	●	●
H-WF-1	●	●	●		●	●	●
H-WF-2N	●	●			●	●	●
H-WF-3		●	●		●	●	●
H-WF-5		●	●		●	●	●
H-WF-01-SP	●	●	●		●	●	●
H-WF-104-SP	●	●	●		●	●	●
H-WF-03C-LV		●			●	●	●
H-WF-05A-LV		●			●	●	●



Product Characteristic Index

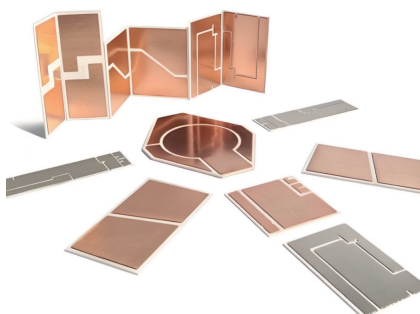
Product Model	Chemical Composition (%)					Oil Absorpti on Rate (ml/ 100g) (≤)	Conduct ivity (μS/cm) (≤)	Adheren t water (%) (≤)	Whitene ss (%) (≥)	325 Sieve Oversize (%) (≤)	Median particle size (μm)
	Al(OH)3 (≥)	SiO2 (≤)	Fe2O3 (≤)	Na2O (≤)	Na2O(S) (≤)						
H-WF-1-LS	99.7	0.02	0.01	0.15	0.03	45	120	0.35	97	0.1	0.8-1.4
H-WF-1	99.7	0.02	0.01	0.3	0.03	45	120	0.35	97	0.1	0.8-1.4
H-WF-2N	99.7	0.02	0.01	0.3	0.03	45	120	0.35	96	0.1	1.2-2.0
H-WF-3	99.4	0.10	0.02	0.3	0.04	30	150	0.40	96	0.5	2.5-4.5
H-WF-5	99.6	0.10	0.02	0.3	0.03	32	120	0.40	96	3.0	4-7
H-WF-01-SP	99.6	0.015	0.02	0.3	0.03	45	280	0.30	99.8	0.2	1.75-2.1
H-WF-104-SP	99.6	0.015	0.02	0.3	0.03	45	280	0.30	99.8	0.2	1.5-1.9
H-WF-03C-LV	99.4	0.10	0.01	0.45	0.03	30	-	0.4	99	-	2.0-4.0
H-WF-05A-LV	99.4	0.10	0.01	0.45	0.03	25	-	0.3	99	-	4.0-4.8
H-F-01-LV	99.6	0.15	0.01	0.35	0.03	40	200	0.30	96	-	1.4-2.05
H-WF-1-LE	99.6	0.02	0.01	0.11	-	32	-	0.30	-	-	0.8-1.4
H-WF-01-LV	99.7	0.01	0.01	0.13	0.02	38	40	0.20	99	5	2-2.5
FH-BP-1-D	99.3	0.3	0.01	0.35	0.35	40	100	0.3	97	-	1.6-2.1

Product Application Areas



Cable

Micronized aluminum hydroxide has high purity and low conductivity. Due to its small particle size and large surface area, it helps to improve the smoothness of the finished synthetic material and other mechanical and electrical properties. It can be used as the material for the insulation and protective layer of cables and is suitable for different voltages.



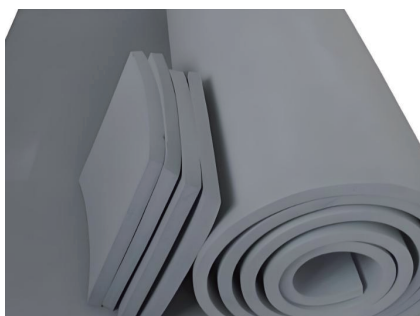
Copper Clad Laminate

A low-impurity micro-powder aluminum hydroxide with uniform particle size distribution, low impurity content, no magnetic impurities, and high water loss temperature. It is used in the copper clad laminate industry and has good electrical, thermal, rheological, mechanical, optical and chemical properties.



Silicone Rubber

Silicone rubber itself has natural flame retardant properties, but its tearing performance is very poor. Micronized aluminum hydroxide can improve the tracking and erosion resistance of silicone rubber.



Foam Insulation

Micronized aluminum hydroxide with a very narrow particle size distribution is used in foam insulation to provide fire resistance and consistent pore size.



Papermaking Materials

Micronized aluminum hydroxide has high whiteness, fine particle size, good crystal shape, good compatibility with brighteners, and good ink absorbency. It can improve the whiteness, opacity, smoothness, and ink absorbency of coated paper. It can be used in the production of high-grade paper such as thermal paper, illustrated newspapers, photographic paper, and high-grade dictionaries.



PVC

PVC products contain Cl elements, which makes PVC slightly better in flame retardancy than other thermoplastics. However, when PVC products burn, a lot of smoke is generated. The generation of smoke increases the demand for flame retardant additives in PVC products. ATH products play a role in both flame retardancy and smoke suppression in thermoplastic PVC products.