Tai Xing
泰星股份 绿色智造

Ultrafine Precipitated Aluminum Hydroxide

ATH-1

CAS No. 21645-51-2

Description

ATH-1 is a ultrafine precipitated aluminum hydroxide with ultrafine particle size, regular crystal structure, high-purity, high whiteness, low surface activity and small specific surface area, can be widely used in various of processing technology.

Physical and Chemical Properties

Items	Unit	Index
$Al(OH)_3$	%	≥99.4
SiO_2	%	≤0.02
Fe_2O_3	%	≤0.02
Na_2O	%	≤0.3
Na_2O (Soluble)	%	≤0.015
Moisture	%	≤0.3
Loss on ignition (600°C)	%	34.5±0.5
Whiteness	%	≥96
Particle size D50, Laser diffraction	μm	1.2~1.6
Particle size D50, Laser diffraction	μm	1.6~2.1
PH value	—	8.0-10.0
Oil absorption (linseed oil)	Ml/100g	≤40
Electrical conductivity	us/cm	≤30
Residue on Sieve	%	≤0.01

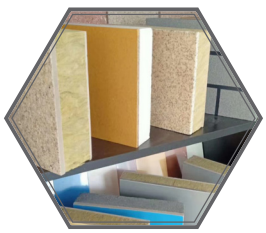
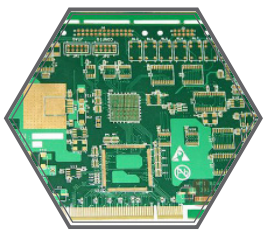
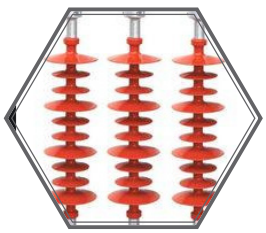
Key Advantages

- **Low Na_2O%:** (Soluble Na_2O%≤0.015%)
- **Low Electrical conductivity:** ≤30μs/cm
- **Low Residue content(on sieve):** ≤0.01% (400Mesh)
- **Less black spots and impurities:** ≤25/100gram

Application

Recommended to be used in wires and cables, copper clad plates(CCL), composite insulators, heat insulation material, etc.



山东泰星新材料股份有限公司
SHANDONG TAIXING ADVANCED MATERIAL CO.,LTD.
http://www.txzuranji.com
电话：+86-531-88870399 服务热线 :400-0531-026

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Ultrafine precipitated Aluminum Hydroxide Production Process

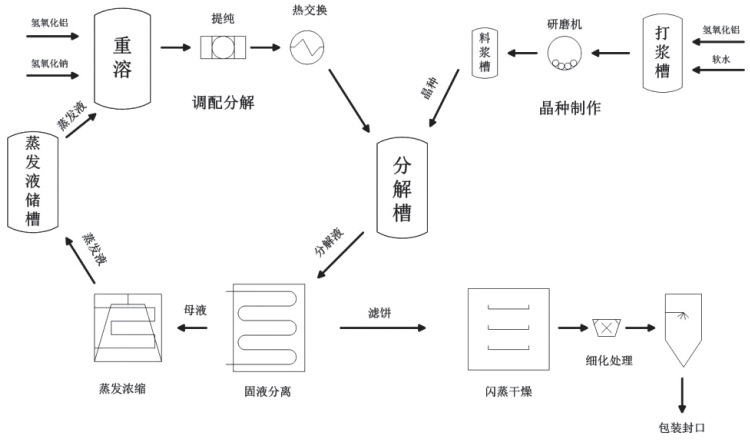
There are two main production methods of ultrafine precipitated aluminum hydroxide flame retardant fillers: sodium aluminate solution seed separation (chemical method) and industrial aluminum hydroxide mechanical grinding (physical method).

1.Mechanical Grinding (Physical Method).

The mechanical method is to pulverize and grind the crude aluminum hydroxide after washing and drying into ATH powder with finer particle size by stirring mill and air mill

2.Crystal Seed Separation (Chemical Method)

The aluminum in the low quality aluminum hydroxide was dissolved by the caustic soda solution and the sodium aluminate solution was obtained. The sodium aluminate solution is purified by removing the residue. Dilute the purified sodium aluminate solution with water, control the concentration and temperature, add alumina hydroxide as crystal seed, stir, decompose and precipitate alumina hydroxide after a certain time and obtain high-purity ultrafine aluminum hydroxide



3.Comparison Of Two Processes

Production Process	Mechanical Grinding (Physical Method).	Crystal Seed Separation (Chemical Method)
Raw Materials	Aluminum Hydroxide Wet Powder	Aluminum Hydroxide Wet Powder
Advantages	Simple Process, Low Production Cost	Crystal Shape Regular Narrow Particle Size Distribution, Low Oil Absorption Low Iron Low Sodium, Excellent Processing Performance
Disadvantages	The Powder Irregular Shape, Wide Particle Size Distribution And Poor Product Performance	Relatively Complex Process, High Production Cost
Applications and Benefits	Conveyor Belt, Laminate, Pouring Sealant, BMC, SMC	Flame Retardant Wire And Cable, Copper-Clad Plate, Composite Insulator, Insulation Material
Taixing Production Process		●