



湖北汇富纳米材料股份有限公司
HUBEI HUIFU NANOMATERIAL CO.,LTD.

HIFULL

FUMED NANOMATERIAL EXPERT



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Fumed Nanomaterial

Hubei Huifu Nanomaterial Co.,Ltd.

Lead and participate in ISO standards projects of fumed silica

<http://hbhuifu.en.alibaba.com>

 **Alibaba.com**

HIFULL/ fumed silica



 Search





FUMED SILICA

Company Profile

ENTERPRISE INTRODUCTION

ABOUT HIFULL

Hubei Huifu Nanomaterial Co., Ltd. is a chemical manufacturer of nano powder materials from China. Our main products are fumed silica SiO_2 , fumed titanium dioxide TiO_2 and fumed alumina Al_2O_3 . We are certified as China National Little Giants & specialized and sophisticated enterprises that produce new and unique products. We produce both hydrophilic and hydrophobic fumed silica with wide range of hydrophobic grades. We get fumed alumina invention patent and achieve industrialization. And we have done pilot scale production of fumed titanium dioxide.

Since the found of Hubei Huifu, we are dedicated to being a professional supplier of nano powder materials. With continuous R&D and upgrade of technology, our core competitiveness is strengthened and we are capable to provide customized and tailored product to our clients. We get CNAS approval to conduct whole set of property analyst & test for fumed nano powders. We grasp the key manufacturing and processing technology of fumed silica, fumed titanium dioxide and fumed alumina.

HIFULL fumed silica works as reinforce agent for silicone elastomer. Besides, fumed silica also works as functional additives in silicone rubbers, coatings, printing inks, adhesives, synthesis resins, composite materials, plastics, gel batteries, deformers, constructional materials, argo chemicals, cosmetics, food, pharmaceuticals, thermal insulation materials and CMP.

With years of development, Hubei Huifu Nanomaterial Co., Ltd. has become a leading fumed silica manufacturer in China. Guangzhou Huifu Research Institute Co., Ltd. is our wholly-owned subsidiary. We have 54 Chinese patents and 2 international patents, among which there are 24 invention patents, 32 utility patents. We lead and participate in 3 ISO standards projects, 2 about fumed silica and 1 about fumed titanium dioxide; 2 China National standards (GB) for fumed alumina and fumed silica respectively; 3 China group standard projects concerning fumed silica. And two of these standards have won China Patent Excellence Awards in intellectual property of fumed silica.

HIFULL fumed silica has optimum advantages in product capacity, manufacturing technology and stability, deep-processing technology, operating rate, quality control and application research. We are among the few companies in China who use methyl silicochloroform, tetrachlorosilane and other chlorosilane as raw materials to produce high quality fumed silica products.

Hubei Huifu always takes Objectivity-obeying, Integrity-keeping and Excellence-striving as our development concept. We put employee safety, product quality and client benefit at first place. We keep providing professional, customized assistance and solutions as trust-worthy partner of you.

FUMED NANOMATERIAL EXPERT



CORPORATE CULTURE

A B O U T U S

Mission

Solve the chokehold technologies in fumed silica and high-end nano materials in China

Vision

To be World-class Service Supplier of Fumed Nanomaterial

Value

Customer-oriented, striver-oriented, make contribution to achieving Chinese Dream

HIFULL

A B O U T U S

CORPORATE CULTURE

Safety:

Establishing safety is the lifeline of an enterprise, all accidents can be prevented and avoided. Adhere to people-oriented, take system as the criterion, enhance safety awareness, combine prevention and control, and jointly supervise.

Quality:

Establish the concept that quality is fundamental for enterprise development, carry forward craftsmanship with the pursuit of excellence. Survive by quality, develop by quality, and profit by quality.

Customer Service:

Establish the concept of customer first, customer-centered, and take customers' needs as direction, take excellent service as standard, respect customer.

SECURITY & QUALITY & CUSTOMER

Our Certificates

Company qualification

 **QUALITY**
ISO9001

 **ENVIRONMENT**
ISO14001

 **HEALTH&SAFETY**
ISO45001

 **ENERGY**
ISO50001



 **REACH**

 **SGS**

 **KOSHER**

 **HALAL**



Our Awards

Company honor

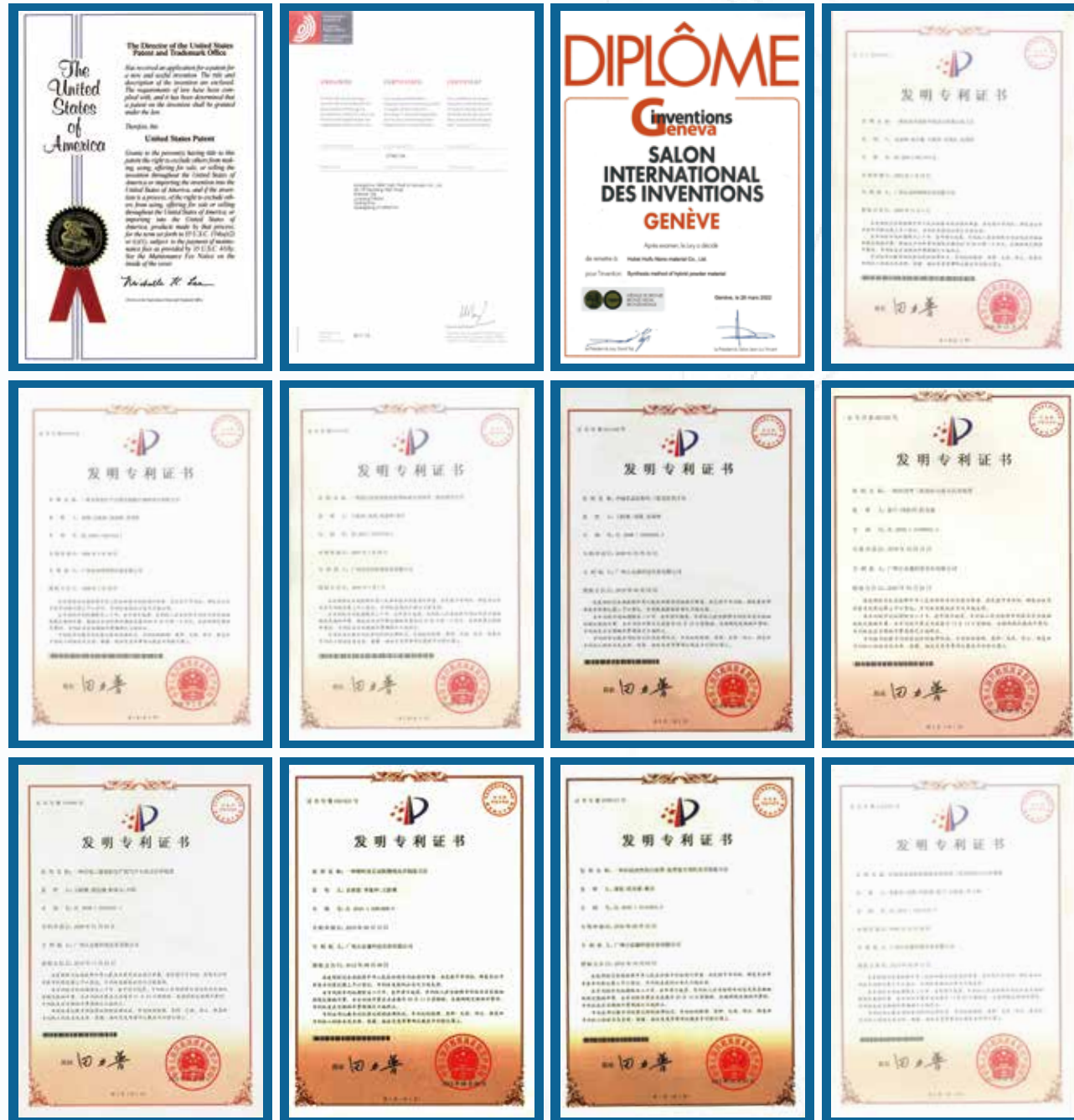


OUR PATENTS

Invention Patent



Certificate



OUR PATENTS

Invention Patent



Certificate





FUMED SILICA EXPERT

Fumed silica, also called pyrogenic silica, is synthesized from the hydrolysis of high purity Silane in a flame of oxygen and hydrogen at very high temperature. It's nano-scaled amorphous silica with extremely small particle size, uniform distribution, enormous surface area, high purity and high surface activity.

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SILICA STANDARD
SOLUTION

HIFULL HL-90

HYDROPHILIC FUMED SILICA

HL-90 is hydrophilic fumed silica synthesized from the hydrolysis of high purity chlorsilane in a flame of oxygen and hydrogen at temperature over 1000°C. Its specific surface area is around 100m²/g.

01 Applications

- Surface-treatment for base materials
- Polish & Grind
- Coatings, Printing inks
- Resins, Plastics, Thermal Materials, Fire-proof Materials
- Personal Care Products
- Food
- Constructional Materials

02 Properties

- Excellent dispersion in liquid system
- High filler for organosilicon and adhesives
- Glossiness adjust for paints and coating films
- Polishing and grinding additives for base materials like metals or glass
- Flow aid or anti-caking agent for powder products

03 Physical & Chemical Data

Properties	Unit	Typical Value	Testing Standard
Specific Surface Area (BET)	m²/g	100±20	GB/T 20020
pH value in 4% dispersion	—	3.9~4.5	GB/T 20020
Loss on drying (2 hours at 105°C)	%	≤1.0	GB/T 20020
Loss on ignition (2 hours at 1000°C, based on material dried for 2 hours at 105°C)	%	≤1.5	GB/T 20020
Tamped Density (Based on material dried at 105°C for 2 hours)	g/L	45~60	GB/T 20020
Sieve Residue (45µm)	mg/kg	≤250	GB/T 20020
Silica Content (Based on ignited material)	%	≥99.8	GB/T 20020

※ customized products available for special physical or chemical data

HIFULL HL-150

HYDROPHILIC FUMED SILICA

HL-150 is hydrophilic fumed silica with specific surface area around 150m²/g.

01 Applications

- HTV and RTV silicone rubber
- Adhesives and Sealants
- Coatings and Paintings

02 Properties

- Reinforcing filler for elastomers
- Rheology control and thixotropic agent
- Anti-settling, anti-sagging and thickening agent
- Free flow aid and anti-caking aid for powders

03 Physical & Chemical Data

Properties	Unit	Typical Value	Testing Standard
Specific Surface Area (BET)	m²/g	150±15	GB/T 20020
pH value in 4% dispersion	—	3.9~4.5	GB/T 20020
Loss on drying (2 hours at 105°C)	%	≤1.5	GB/T 20020
Loss on ignition (2 hours at 1000°C, based on material dried for 2 hours at 105°C)	%	≤2.0	GB/T 20020
Tamped Density (Based on material dried at 105°C for 2 hours)	g/L	40~60	GB/T 20020
Sieve Residue (45µm)	mg/kg	≤250	GB/T 20020
Silica Content (Based on ignited material)	%	≥99.8	GB/T 20020

※ customized products available for special physical or chemical data

HIFULL HL-200

HYDROPHILIC FUMED SILICA

HL-200 is hydrophilic fumed silica with specific surface area around 200m²/g

01 Applications

- Coatings & Paintings
- Thin Film & UPR
- HTV & RTV Silicon Rubber
- Adhesives & Sealants
- Printing Ink
- Cosmetics
- Silicon elastomers

02 Properties

- Reinforcing filler for elastomers
- Rheology control and thixotropic agent
- Anti-settling, anti-sagging and thickening agent
- Free flow aid and anti-caking aid for powders
- High transparency

03 Physical & Chemical Data

Properties	Unit	Typical Value	Testing Standard
Specific Surface Area (BET)	m ² /g	200±20	GB/T 20020
pH value in 4% dispersion	—	3.9~4.5	GB/T 20020
Loss on drying (2 hours at 105°C)	%	≤2.0	GB/T 20020
Loss on ignition (2 hours at 1000°C, based on material dried for 2 hours at 105°C)	%	≤2.0	GB/T 20020
Tamped Density (Based on material dried at 105°C for 2 hours)	g/L	40~60	GB/T 20020
Sieve Residue (45µm)	mg/kg	≤250	GB/T 20020
Silica Content (Based on ignited material)	%	≥99.8	GB/T 20020

※ customized products available for special physical or chemical data

HIFULL HL-260

HYDROPHILIC FUMED SILICA

HL-260 is hydrophilic fumed silica synthesized from the hydrolysis of high purity chloresilane in a flame of oxygen and hydrogen at temperature over 1000°C. Its specific surface area is around 260m²/g.

01 Applications

- HTV & RTV Silicone Rubbers
- Adhesives
- Coatings & Printing Inks
- UPR resins
- Thermal Materials
- Ceramic Powder Material
- Personal Care Products
- Food & Constructional Materials

02 Properties

- Reinforcing filler for elastomers
- Rheology control and thixotropic agent
- Free flow aid and anti-caking aid for powders
- High transparency in UPR

03 Physical & Chemical Data

Properties	Unit	Typical Value	Testing Standard
Specific Surface Area (BET)	m ² /g	260±20	GB/T 20020
pH value in 4% dispersion	—	3.7~4.5	GB/T 20020
Loss on drying (2 hours at 105°C)	%	≤2.0	GB/T 20020
Loss on ignition (2 hours at 1000°C, based on material dried for 2 hours at 105°C)	%	≤2.0	GB/T 20020
Tamped Density (Based on material dried at 105°C for 2 hours)	g/L	40~60	GB/T 20020
Sieve Residue (45µm)	mg/kg	≤250	GB/T 20020
Silica Content (Based on ignited material)	%	≥99.8	GB/T 20020

※ customized products available for special physical or chemical data

HIFULL HL-300

HYDROPHILIC FUMED SILICA

HL-300 is hydrophilic fumed silica with specific surface area around 300m²/g.

01 Applications

- Coatings & Paintings
- Silicone rubber and Other elastomers
- Thin & UPR
- Adhesives and Sealants
- Printing ink

02 Properties

- Reinforcing filler in elastomers
- Anti-settling, anti-sagging and thickening agent
- Rheology control and thixotropic agent
- Free flow aid and anti-caking aid for powders
- High transparency in UPR

03 Physical & Chemical Data

Properties	Unit	Typical Value	Testing Standard
Specific Surface Area (BET)	m ² /g	300±25	GB/T 20020
pH value in 4% dispersion	—	3.7~4.5	GB/T 20020
Loss on drying (2 hours at 105°C)	%	≤2.0	GB/T 20020
Loss on ignition (2 hours at 1000°C, based on material dried for 2 hours at 105°C)	%	≤2.5	GB/T 20020
Tamped Density (Based on material dried at 105°C for 2 hours)	g/L	40~60	GB/T 20020
Sieve Residue (45µm)	mg/kg	≤250	GB/T 20020
Silica Content (Based on ignited material)	%	≥99.8	GB/T 20020

※ customized products available for special physical or chemical data

HIFULL HL-380

HYDROPHILIC FUMED SILICA

HL-380 is hydrophilic fumed silica with specific surface area around 400m²/g.

01 Applications

- Coatings & Paintings
- Silicone rubber and Other elastomers
- UPR
- Adhesives & Sealants
- Printing ink

02 Properties

- Reinforcing filler for elastomers
- Anti-settling, anti-sagging and thickening agent
- Rheology control and thixotropic agent
- Free flow aid and anti-caking aid for powders
- High transparency in UPR

03 Physical & Chemical Data

Properties	Unit	Typical Value	Testing Standard
Specific Surface Area (BET)	m ² /g	380±30	GB/T 20020
pH value in 4% dispersion	—	3.7~4.5	GB/T 20020
Loss on drying (2 hours at 105°C)	%	≤2.5	GB/T 20020
Loss on ignition (2 hours at 1000°C, based on material dried for 2 hours at 105°C)	%	≤2.5	GB/T 20020
Tamped Density (Based on material dried at 105°C for 2 hours)	g/L	40~60	GB/T 20020
Sieve Residue (45µm)	mg/kg	≤250	GB/T 20020
Silica Content (Based on ignited material)	%	≥99.8	GB/T 20020

※ customized products available for special physical or chemical data

HIFULL HL-450

HYDROPHILIC FUMED SILICA

HL-450 is hydrophilic fumed silica synthesized from the hydrolysis of high purity chlorsilane in a flame of oxygen and hydrogen at temperature over 1200°C. Its specific surface area is around 450m²/g.

01 Applications

- High transparent LSR and adhesives
- Coatings & Printing Inks
- Deformers
- Carrier
- Personal Care Products
- Food
- Constructional Materials

02 Properties

- Reinforce materials for elastomers
- Excellent transparency in silicone rubbers
- Rheology control and thixotropic agent
- Good carrier adsorption

03 理化数据

性质	单位	典型值	测试标准
Specific Surface Area (BET)	m²/g	450±30	GB/T 20020
pH value in 4% dispersion	—	3.7~4.5	GB/T 20020
Loss on drying (2 hours at 105°C)	%	≤2.5	GB/T 20020
Loss on ignition (2 hours at 1000°C, based on material dried for 2 hours at 105°C)	%	≤2.5	GB/T 20020
Tamped Density (Based on material dried at 105°C for 2 hours)	g/L	40~60	GB/T 20020
Sieve Residue (45µm)	mg/kg	≤250	GB/T 20020
Silica Content (Based on ignited material)	%	≥99.8	GB/T 20020

※ customized products available for special physical or chemical data

HIFULL HB-612

HYDROPHOBIC FUMED SILICA

HB-612 is hydrophobic fumed silica which produced by hydrophilic fumed silica with specific surface area of 150m²/g after chemical post-treatment with HMDS (Hexamethyldisilazane).

01 Applications

- RTV silicone rubber
- Adhesives and Sealants
- Coatings & Printing ink
- Powder Coatings

02 Properties

- Rheological control of RTV silicone rubber
- Anti-settling,anti-sagging and thixotropy agent
- Free flow aid and anti-caking aid for powders
- Thixotropic agent & reinforce filler for RTV silicone sealants, the hydrophobic feature enables RTV silicone sealants a long guarantee time

03 Physical & Chemical Data

Properties	Unit	Typical Value	Testing Standard
Specific Surface Area (BET)	m²/g	140±20	GB/T 20020
Carbon Content (Based on material dried at 105°C for 2 hours)	%	0.7~1.3	GB/T 20020
pH value in 4% dispersion	—	5.0~8.0	GB/T 20020
Loss on drying(2 hours at 105°C)	%	≤0.7	GB/T 20020
Loss on ignition (2 hours at 1000°C, based on material dried for 2 hours at 105°C)	%	≤2.0	GB/T 20020
Tamped Density (Based on material dried at 105°C for 2 hours)	g/L	40~60	GB/T 20020
Silica Content (Based on ignited material)	%	≥99.8	GB/T 20020

※ customized products available for special physical or chemical data

HIFULL HB-615

HYDROPHOBIC FUMED SILICA

HB-615 is hydrophobic fumed silica which is produced by hydrophilic fumed silica with specific surface area of 150m²/g after chemical post-treatment with HMDS (Hexamethyldisilazane).

01 Applications

- Elastomers, HTV&RTV silicone rubber, LSR
- Coatings & Printing ink
- Adhesives and Sealants
- Toners
- Powder Coatings

02 Properties

- Reinforcing filler for elastomer, adhesives & sealants
- High hydrophobicity and stable thixotropy
- Anti-settling and anti-sagging agent in coatings and printing ink
- Improving dispersion and stability of pigment
- Rheological control for adhesives & sealants
- Free flow aid and anti-caking aid for powders

03 Physical & Chemical Data

Properties	Unit	Typical Value	Testing Standard
Specific Surface Area (BET)	m ² /g	140±20	GB/T 20020
Carbon Content (Based on material dried at 105°C for 2 hours)	%	1.0~1.7	GB/T 20020
pH value in 4% dispersion	—	5.0~8.0	GB/T 20020
Loss on drying(2 hours at 105°C)	%	≤0.7	GB/T 20020
Loss on ignition (2 hours at 1000°C, based on material dried for 2 hours at 105°C)	%	≤4.0	GB/T 20020
Tamped Density (Based on material dried at 105°C for 2 hours)	g/L	40~60	GB/T 20020
Silica Content (Based on ignited material)	%	≥99.8	GB/T 20020

※ customized products available for special physical or chemical data

HIFULL HB-620

HYDROPHOBIC FUMED SILICA

HB-620 is hydrophobic fumed silica which is produced by hydrophilic fumed silica with specific surface area of 200m²/g after chemical post-treatment with HMDS (Hexamethyldisilazane).

01 Applications

- HTV silicone rubber and LSR
- Coatings & printing ink
- Adhesives & Sealants
- Powder Coatings

02 Properties

- Reinforcing filler for elastomer
- High hydrophobicity and stable thixotropy
- Anti-settling and anti-sagging agent in coatings and printing ink
- Free flow aid and anti-caking aid for powders
- Rheological control for adhesives and sealants

03 Physical & Chemical Data

Properties	Unit	Typical Value	Testing Standard
Specific Surface Area (BET)	m ² /g	170±30	GB/T 20020
Carbon Content (Based on material dried at 105°C for 2 hours)	%	1.5~2.5	GB/T 20020
pH value in 4% dispersion	—	6.0~9.0	GB/T 20020
Loss on drying(2 hours at 105°C)	%	≤0.7	GB/T 20020
Loss on ignition (2 hours at 1000°C, based on material dried for 2 hours at 105°C)	%	≤4.0	GB/T 20020
Tamped Density (Based on material dried at 105°C for 2 hours)	g/L	40~60	GB/T 20020
Silica Content (Based on ignited material)	%	≥99.8	GB/T 20020

※ customized products available for special physical or chemical data

HIFULL HB-630

HYDROPHOBIC FUMED SILICA

HB-630 is hydrophobic fumed silica which is produced by hydrophilic fumed silica with specific surface area of 400m²/g after chemical post-treatment with HMDS (Hexamethyldisilazane).

01 Applications

- Elastomers, HTV silicone rubber and LSR
- Coatings & printing ink
- Defoamer
- Carbon Powder for Printer

02 Properties

- High reinforcement and transparency in HTV and LSR
- High hydrophobicity and stable thixotropy
- Anti-settling and anti-sagging agent in coatings and printing ink
- With large specific surface area, small particle size & good dispersion performance, it enables good defoaming performance
- Free flow aid and anti-caking aid for powders

03 Physical & Chemical Data

Properties	Unit	Typical Value	Testing Standard
Specific Surface Area (BET)	m ² /g	300±30	GB/T 20020
Carbon Content (Based on material dried at 105°C for 2 hours)	%	2.5~4.0	GB/T 20020
pH value in 4% dispersion	—	6.0~9.0	GB/T 20020
Loss on drying(2 hours at 105°C)	%	≤0.7	GB/T 20020
Loss on ignition (2 hours at 1000°C, based on material dried for 2 hours at 105°C)	%	≤5.0	GB/T 20020
Tamped Density (Based on material dried at 105°C for 2 hours)	g/L	40~60	GB/T 20020
Silica Content (Based on ignited material)	%	≥99.8	GB/T 20020

※ customized products available for special physical or chemical data

HIFULL HB-132

HYDROPHOBIC FUMED SILICA

HB-132 is hydrophobic fumed silica which is produced by hydrophilic fumed silica with specific surface area of 200m²/g after chemical post-treatment with HMDS (Hexamethyldisilazane).

01 Applications

- Silicone rubber
- Defoamer
- Toner
- Adhesives & Sealants

02 Properties

- Low thickening effect and excellent processability enable high loading in polymers
- Excellent reinforcing properties in silicone rubber especially at high filler loading levels (RTV-1, RTV-2, LSR)
- High transparency
- Free flow aid for powders

03 Physical & Chemical Data

Properties	Unit	Typical Value	Testing Standard
Specific Surface Area (BET)	m ² /g	140±20	GB/T 20020
Carbon Content (Based on material dried at 105°C for 2 hours)	%	2.0~4.0	GB/T 20020
pH value in 4% dispersion	—	6.0~9.0	GB/T 20020
Loss on drying(2 hours at 105°C)	%	≤0.7	GB/T 20020
Loss on ignition (2 hours at 1000°C, based on material dried for 2 hours at 105°C)	%	≤4.0	GB/T 20020
Tamped Density (Based on material dried at 105°C for 2 hours)	g/L	40~60	GB/T 20020
Silica Content (Based on ignited material)	%	≥99.8	GB/T 20020

※ customized products available for special physical or chemical data

HIFULL HB-139

HYDROPHOBIC FUMED SILICA

HB-139 is hydrophobic fumed silica which is produced by hydrophilic fumed silica with specific surface area of 200m²/g after chemical post-treatment with PDMS (Polydimethylsiloxane).

01 Applications

- Silicone rubber
- Coatings & printing ink
- Adhesives & Sealants
- Greases & cable gel
- Unsaturated resin
- Powders

02 Properties

- Good thickening and thixotropic property
- Good anti-sagging properties and excellent stability in epoxy resin
- Excellent reinforcing properties in silicone rubber especially at high filler loading levels and no crepe hardening on aging
- Well suited for transparent system products
- High hydrophobicity, free flow aid for powder coatings

03 Physical & Chemical Data

Properties	Unit	Typical Value	Testing Standard
Specific Surface Area (BET)	m ² /g	110±30	GB/T 20020
Carbon Content (Based on material dried at 105°C for 2 hours)	%	4.0~7.0	GB/T 20020
pH value in 4% dispersion	—	4.0~7.0	GB/T 20020
Loss on drying(2 hours at 105°C)	%	≤0.7	GB/T 20020
Loss on ignition (2 hours at 1000°C, based on material dried for 2 hours at 105°C)	%	≤10.0	GB/T 20020
Tamped Density (Based on material dried at 105°C for 2 hours)	g/L	40~60	GB/T 20020
Silica Content (Based on ignited material)	%	≥99.8	GB/T 20020

※ customized products available for special physical or chemical data

HIFULL HB-151

HYDROPHOBIC FUMED SILICA

HB-151 is hydrophobic fumed silica which is produced by hydrophilic fumed silica with specific surface area of 150m²/g after chemical post-treatment with DDS(Dimethyldichlorosilane).

01 Applications

- RTV silicone rubber, especially RTV-T
- Adhesives & Sealants
- Coatings & Printing ink
- Powder Coating

02 Properties

- Thixotropy and reinforcement in RTV silicone sealants, the hydrophobic feature gives RTV silicone sealants a long shelf-life
- Rheology control in adhesives
- Anti-settling, anti-sagging and thixotropy control
- Free flow aid and anti-caking aid for powders

03 Physical & Chemical Data

Properties	Unit	Typical Value	Testing Standard
Specific Surface Area (BET)	m ² /g	120±30	GB/T 20020
Carbon Content (Based on material dried at 105°C for 2 hours)	%	0.6~1.2	GB/T 20020
pH value in 4% dispersion	—	≥3.7	GB/T 20020
Loss on drying(2 hours at 105°C)	%	≤0.7	GB/T 20020
Loss on ignition (2 hours at 1000°C, based on material dried for 2 hours at 105°C)	%	≤2.5	GB/T 20020
Tamped Density (Based on material dried at 105°C for 2 hours)	g/L	40~60	GB/T 20020
Silica Content (Based on ignited material)	%	≥99.8	GB/T 20020

※ customized products available for special physical or chemical data

HIFULL HB-152

HYDROPHOBIC
FUMED SILICA

HB-152 is hydrophobic fumed silica which is produced by hydrophilic fumed silica with specific surface area of 200m²/g after chemical post-treatment with DDS (Dimethyldichlorosilane).

01 Applications

- RTV silicone rubber, especially RTV-T
- Adhesives & Sealants
- Coatings, Printing ink
- Powder Coating

02 Properties

- Higher hydrohpobicity, thixotropy, thickening, transparency and reinforcement
- Anti-settling and anti-sagging agent
- Rheology control in adhesives
- Free flow aid and anti-caking aid for powders
- Thixotropy and reinforcement in RTV silicone sealants, the hydrophobic feature gives RTV silicone sealants a long shelf-life

03 Physical & Chemical Data

Properties	Unit	Typical Value	Testing Standard
Specific Surface Area (BET)	m ² /g	170±30	GB/T 20020
Carbon Content (Based on material dried at 105°C for 2 hours)	%	0.8~1.6	GB/T 20020
pH value in 4% dispersion	—	≥3.7	GB/T 20020
Loss on drying(2 hours at 105°C)	%	≤0.7	GB/T 20020
Loss on ignition (2 hours at 1000°C, based on material dried for 2 hours at 105°C)	%	≤2.5	GB/T 20020
Tamped Density (Based on material dried at 105°C for 2 hours)	g/L	40~60	GB/T 20020
Silica Content (Based on ignited material)	%	≥99.8	GB/T 20020

※ customized products available for special physical or chemical data

HIFULL HB-202N

SURFACE-TREATED
FUMED SILICA

HB-202N is hydrophobic fumed silica which has been treated by special manufacturing process to increase the polarity of product.

01 Applications

- Toner & Coatings
- Anti-corrosive Coatings
- Water-based printing inks & water-based paints
- Grinding of Copper Products

02 Properties

- Improve electrostatic effect of product system;
- Improve thickening, thixotropic and rheological properties in different systems;
- Improve compatibility and stability of polyurethane system and mechanical properties of epoxy resin system;
- Strong electric potential stability, improve wettability in various product systems;
- high thickening and thixotropic properties for epoxy systems containing polar solvents, effectively solves the problem of poor storage stability of epoxy system products

03 Physical & Chemical Data

Properties	Unit	Typical Value	Testing Standard
Specific Surface Area (BET)	m ² /g	170±20	GB/T 20020
Carbon Content (Based on material dried at 105°C for 2 hours)	%	1.0~2.0	GB/T 20020
pH value in 4% dispersion	—	8.0~10.0	GB/T 20020
Loss on drying(2 hours at 105°C)	%	≤2.0	GB/T 20020
Loss on ignition (2 hours at 1000°C, based on material dried for 2 hours at 105°C)	%	≤8.0	GB/T 20020
Tamped Density (Based on material dried at 105°C for 2 hours)	g/L	40~60	GB/T 20020
Silica Content (Based on ignited material)	%	≥99.8	GB/T 20020

※ customized products available for special physical or chemical data

HIFULL HB-701

HYDROPHOBIC FUMED SILICA

HB-701 is surface-treated fumed silica with active silanol group modified by special silane.

01 Applications

- paints & coatings
- Plastics & Elastomers
- Dental composite materials

02 Properties

- Used as rheology control agent in composite liquid system;
- Improve scratch resistance & abrasion resistance for paints & coatings (UV coatings)
- Enhance mechanical properties, strength of composite materials and plastics

03 Physical & Chemical Data

Properties	Unit	Typical Value	Testing Standard
Specific Surface Area (BET)	m ² /g	150±25	GB/T 20020
Carbon Content (Based on material dried at 105°C for 2 hours)	%	4.5~6.5	GB/T 20020
pH value in 4% dispersion	—	4.0~6.0	GB/T 20020
Loss on drying(2 hours at 105°C)	%	≤1.5	GB/T 20020
Loss on ignition (2 hours at 1000°C, based on material dried for 2 hours at 105°C)	%	≥4.5	GB/T 20020
Tamped Density (Based on material dried at 105°C for 2 hours)	g/L	40~60	GB/T 20020
Silica Content (Based on ignited material)	%	≥99.8	GB/T 20020

※ customized products available for special physical or chemical data

HIFULL NT-50

HYDROPHILIC Fumed Titanium Dioxide

NT-50 is titanium dioxide (TiO₂) prepared by pyrolysis process. It has ultra-fine particle size, high purity, high specific surface area and unique combination of anatase and rutile mixed crystal structure. This product is applied in the field of catalysis and photocatalysis, it can also be used as an effective UV filter.

01 Applications

- Efficient catalyst substrate with good thermal and hydrothermal stability;
- Efficient photocatalyst for formulation of self-cleaning construction materials;
- Suitable for the construction of efficient dye-sensitized solar cells;
- Heat stabilizer and flame retardant for silicone rubbers;
- Additive and raw material for ceramic and metal materials as bonding agent, sintering additive, or structural component;
- Dry coating of cathode materials in Li-ion batteries to increase performance and service time.

02 Properties

- Small particle size, high purity, high specific surface area ;
- Combination of anatase and rutile mixed crystal structure, mainly anatase structure;
- Good thermal and chemical stability;
- Outstanding catalytic and photocatalytic efficiency;
- Photoactive under UV radiation;
- Heat-stabilizing effect in silicone elastomers

03 Physical & Chemical Data

Properties	Unit	Typical Value	Testing Standard
Specific surface area (BET)	m ² /g	50±15	GB/T 20020
pH in 4% dispersion		3.5~4.5	GB/T 20020
Loss on drying(2 hours at 105°C)	%	≤1.5	GB/T 20020
Loss on ignition (2 hours at 1000°C)	%	≤2.5	GB/T 20020
TiO ₂ Conten(based on ignited material)	%	≥99.5	GB/T 19591
Tamped density	g/dm ³	140±40	GB/T 20020
Crystal Structure		anatase and rutile mixed crystal structure	GB/T 19591

※ customized products available for special physical or chemical data

HIFULL ALUNA-100

HYDROPHILIC

Fumed Aluminium Oxide Al₂O₃

ALuna-100 are fine-particulate fumed aluminium oxide (Al₂O₃) powder with high specific surface area. The positive surface charge of fumed alumina enables it can be used in many applications with special proper-ties and functions.

01 Applications

- Ceramic coating for separators in lithium batteries to increase thermal stability & safety; Improve conductivity & reversible capacitance when applied in anode of Li-battery;
- Improve chargeability & flow ability for powder coatings & printing ink;
- Applied in different types of thermal board
- Enhance charge adsorption of melt-blown electret masterbatch;
- Applied in fluorescent coating powders in lighting industry to uniform light output, reduce light attenuation and UV harms;
- Super fine powder enables to improve gloss & ink absorption of papers

02 Properties

- High specific surface area and high purity
- Low bulk density
- super fine particle size & good dispersion performance
- Positive surface charge

03 Physical & Chemical Data

Properties	Unit	ALuna-100	Testing Standard
Specific surface area (BET)	m ² /g	100±15	GB/T 26824
pH in 4% dispersion	—	≥3.9	GB/T 26824
Loss on ignition (based on 300°C dried material, 2 hours)	%	≤2.0	GB/T 26824
Al ₂ O ₃ Content (based on 300°C dried material)	%	≥98.0	GB/T 26824
Crystal Structure	—	anatase and rutile mixed crystal structure	GB/T 26824

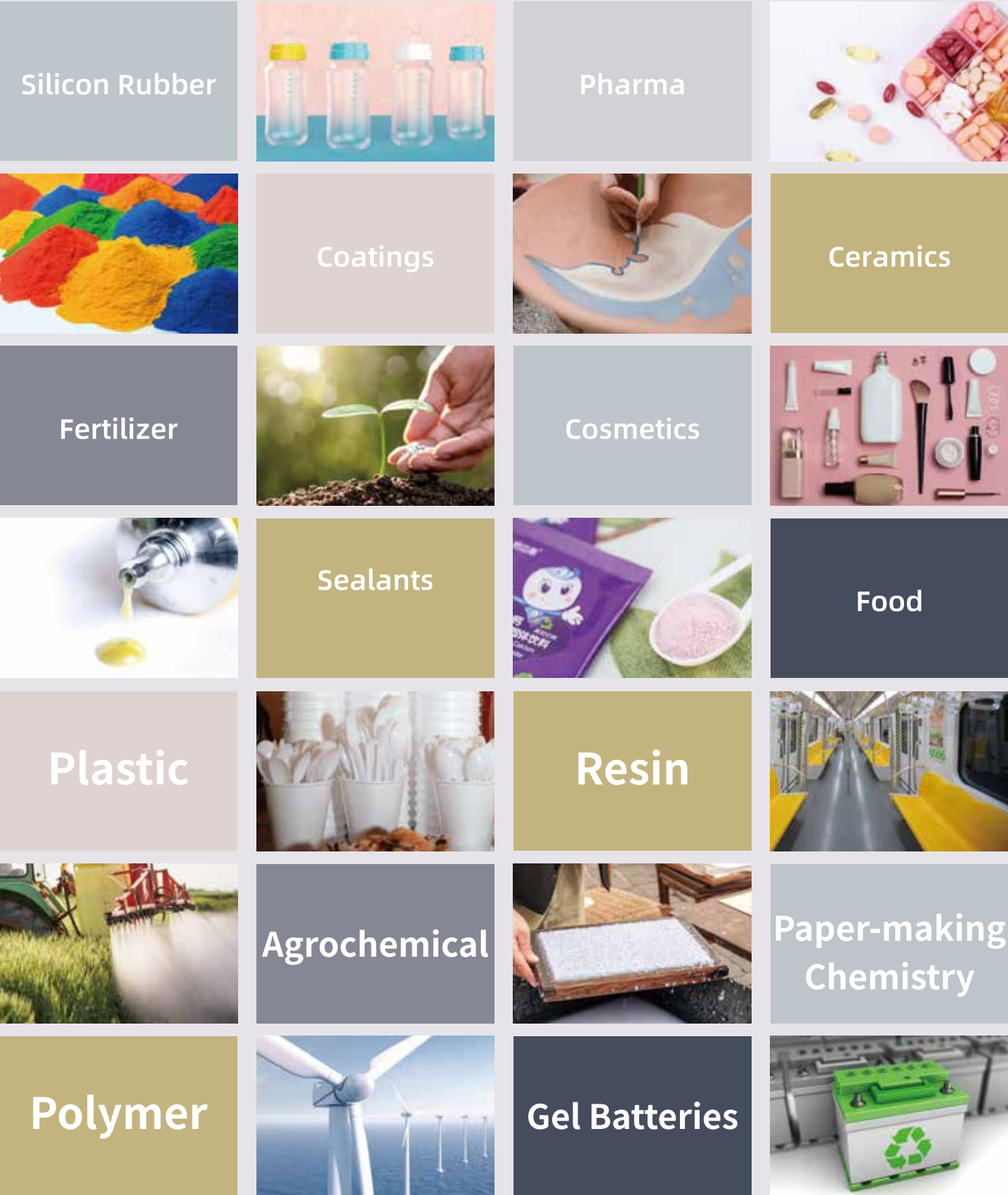
※ customized products available for special physical or chemical data

FUMED SILICA

Product Application

Fumed silica is widely used in polymer composite materials, silicone rubber, coatings, electronic packaging materials, gel batteries, ceramics, colloid, plastics, FRP, sealants, papermaking, food, cosmetics, coating resin, pharma, fertilizer, pesticide, Chemical Mechanical Polishing(CMP) and other fields. Fumed silica acts as a functional additive. It can improve their mechanical and chemical properties in reinforcing, thickening, thixotropy, flattening, anti-settling and anti-sagging.





FUMED SILICA EXPERT silicone Rubber

Product Recommendation:
HL-150、HL-200、HL-260、HL-300、
HL-380、HL-450、HB-612、HB-620、
HB-630、HB-132



Fumed Silica

Silicon rubber is ageing-resistant, high and low temperature resistant and electricity-insulated. However, the molecular chain of silicon rubber is soft, the interaction force between molecular chains is weak, so silicon rubber needs to be reinforced before actual usage.

Fumed silica is an ideal reinforcing agent for silicon rubber. The strengthening is fundamentally brought about by silanol groups being interacted with or Si-methyl bonds being radically cleaved into the polymer. The surface silanol groups (Si-OH) of fumed silica react with silicone rubber macromolecule, then generates a silicon rubber molecular adsorption layer on the surface of silica, therefore a three-dimensional network structure is formed. This structure effectively limits the deformation of the silicone rubber molecular chain, thereby achieving the reinforcing effect.

The physical properties of the silicone rubber reinforced by fumed silica have been greatly improved, so do the tensile strength and tearing resistance, which makes silicone rubber meet the actual needs.

FUMED SILICA EXPERT

Sealants & adhesives

Product Recommendation:
HL-150、HL-200、HL-260、HL-450、
HB-132、HB-151、HB-152、HB-139



Thermal Insulation Material

Nano thermal insulation material made by fumed silica is a major branch of inorganic thermal insulation material. It is used in many applications due to its excellent properties.

Product Recommendation:
HL-90、HL-150、HL-200、HL-260、
HB-151、HB-152 、HB-630



Fumed Silica

In sealants and adhesives, fumed silica plays a major role in rheological control and thickening strength. It can increase adhesion performance, enable free flowing, and avoid caking issues, sagging issues.

When fumed silica is added and dispersed in adhesives and sealants, silica aggregates network is formed, thus flowing property of the matrix is restricted and viscosity increased, thickening property promoted; but, when shearing is applied, hydrogen bonds and silica network breaks, viscosity of the matrix decreases, this allows adhesives and sealants to be applied smoothly; when shearing is removed, network restored and the viscosity of the matrix increases, this prevents adhesives and sealants from sagging during curing process.



Due to the special manufacturing process and the three-dimensional structure, fumed silica enjoys the property of small primary particle size, large specific surface area, high porosity and thermal stability, giving thermal insulation material extremely low heat conductivity.

FUMED SILICA EXPERT

Coatings & Paintings

Product Recommendation:
HL-90、HL-200、HL-260、HL-450、
HB-151、HB-139、HB-202N、HB-701



Printing ink

In thermal printing ink, hydrophilic fumed silica speeds up the drying pace, it helps avoiding smudged and blurred products caused by wet ink. In normal printing ink, hydrophobic fumed silica limits ink to adsorb water and removes foam, the color intensity improved while ink surface still shines. In gravure printing, flexography printing and silk printing, fumed silica works as anti-settling agent.

Product Recommendation:
HL-200、HL-260、HL-450、HB-615、
HB-151、HB-152、HB-202N



Fumed Silica

Fumed silica is added into painting and coatings for rheological control. It can effectively prevent sedimentation and delamination of pigments, improve the weathering and scratch resistance of coatings, and improve the bonding strength between coatings and substrates.

1. In wall coatings, fumed silica helps to prevent the paint from flowing down and to improve the smoothness of the wall surface. What's more, it can greatly improve the scratch resistance and aging time of the exterior wall coating, and also the bonding strength between the coating film and the wall, the hardness of the coating film and the surface self-cleaning ability.
2. When fumed silica is adsorbed by powder coatings, a movable layer is formed on its surface. It improves flowing property by preventing powder coatings from absorbing moisture and agglomerating.
3. The main function of fumed silica in floor paint is to improve its ability of weather resistance, scratch resistance and leveling performance.







Fumed silica also can control the ink volume while printer is working for clean and clear printing results. In cartridge for printers, fumed silica works as dispersion agent and volume control agent.

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FUMED SILICA EXPERT

Unsaturated Polyester Resins (UPR)

Product Recommendation:
HL-90、HL-200、HL-260、HL-300、
HL-380、HB-151、HB-139、HB-701



Agrochemical

Fumed silica has large specific surface area and good adsorption property, it can adsorb water molecules in liquid, then expand into super fine particles, these particles forms stable suspension. This property makes fumed silica perfect additive for agrochemicals in wettable agrochemical powder, agrochemical granules, carrier for water dispersible granules and dispersing agent.

Product Recommendation:
HL-200、HL-380、HB-612、HB-615、
HB-151



Fumed Silica

In UPR products, fume silica gives high transparency and good physical properties even at a low concentration. This improves quality of its down-stream product.

In gel coat resin, fumed silica improves its many properties, mainly tensile strength, bending resistance, water resistance, heat resistance, and prolongs its service life; in thixotropic resin, fumed silica provide excellent thixotropic properties ; in putty, fumed silica shows great anti-settling thixotropic performance.










With excellent chemical stability, fumed silica can keep consistent potency of pesticide even in rain or burning sunlight.

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FUMED SILICA EXPERT Fertilizer


Product Recommendation:
HL-200、HL-380、HB-612、HB-630



Animal Feed

With small particle size, large surface area and unique three-dimensional net structure, fumed silica has good performance in adsorption.


Product Recommendation:
HL-150、HL-200、HL-380





Fumed Silica


Fertilizer is easy to cake during manufacture, storage and transportation period due to change in temperature, humidity and pressure. Problems caused by caked fertilizers will lead to fluctuation in product quality.

Fumed silica allows the flowing properties of fertilizers to be configured perfectly, the good adsorption ability and great hygroscopic ability of fumed silica improve its anti-caking property.









Fumed silica can significantly decrease caking trends to allow animal feed in good flowing condition, increasing manufacturing efficiency and product quality.

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FUMED SILICA EXPERT Defoamer

Product Recommendation:

HL-200、HL-380、HL-450、HB-612、
HB-620、HB-630



FOOD

When applied in food powder, fumed silica is added as anti-caking agent and free flow aid. Due to change in temperature, humidity and pressure during storage and transport period, powder is easy to cake, which has bad effect on quality and shelf life of end product.

适用型号： HL-90、HL-200、HL-450



Fumed Silica

Fumed silica plays roles in defoamer/ anti-foaming agent in dispersing, adsorbing, thickening and anti-settling properties, enables good anti-foaming efficiency and defoaming performance. Fumed silica can be used in silicone based defoamers, mineral oil defoamer, compound defoamer, covering industries like manufacturing, food, paper and petrochemicals.



Fumed silica is with small particle size, large surface area and porous structure, those properties ensures good adsorption ability and great hygroscopicity. In food powder, fumed silica covers all around the powder, it can separate particles, so to decrease viscosity and to ensure excellent flowing property. And, numerous internal pores of fumed silica can adsorb the humidity around food product, it avoids agglomeration when stored.

**FUMED SILICA
EXPERT**

**Catalyst
Carrier**

Product Recommendation:

HL-200、HL-380、HL-450、HB-151



Laser Toner

Laser toner or toner cartridge is an important imaging material in electrostatic development. It is a recognized high-tech material and is widely used in laser printers, copiers, fax machines, etc.

Product Recommendation:

HB-612、HB-615、HB-630、HB-139、

HB-151、HB-202N



Fumed Silica

Fumed silica is an excellent catalyst carrier, which has the characteristics of large specific surface area, strong adsorption capacity, stable physical and chemical properties, low water content and high purity. As a catalyst carrier, fumed silica can efficiently adsorb active catalyst substances, disperse active centers, and ensure the stability and long-term effectiveness of the catalyst. The fumed silica carrier can be widely used in various polyolefin catalysts and other updated catalyst products.



Treated fumed silica, also called hydrophobic fumed silica, enables laser toners excellent flowing ability, chargeability and storage stability. HIFULL hydrophobic fumed silica helps to avoid problems of gray background, ghost image, double image when printing, improve color intensity, transfer print rate and fusing fixation.

FUMED SILICA EXPERT

Fiber Filling Gel

Product Recommendation:
HL-150、HL-200、HL-300、HB-139



Cosmetics

In nail polish, stable three-dimensional net structure of fumed silica avoids pigment settling, and excellent dispersion properties of fume.


Product Recommendation:
HL-90、HL-150、HL-200、HL-450、
HB-151、HB-152



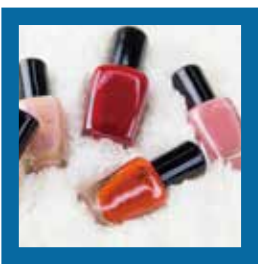
Fumed Silica

Fumed silica is perfect thixotropic agent for fiber filling gel or cable gel. Fiber filling gel in optical fiber and cable plays a role in waterproof, moisture-proof and buffer, and improve the stability of transmission.

When fiber filling gel is stored, fumed silica enables it in stable condition; when shearing (pumping) is applied, viscosity decreases, allowing free flow when processing fiber filling gel into optical fibers or cables; When shearing is removed, fiber filling gel restore to stable condition, protects fiber cable from moisture and mechanical stress, ensuring stable power transmission.









Fumed silica is widely used in sunscreen cream.It can reflect UV, it won’ t decompose if exposed to UV light. And fumed silica is inorganic, it won’ t react with any other components in end products.

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FUMED SILICA
EXPERT

Green Tire

Product Recommendation:
HL-200、HB-630、HB-620



Fumed Silica

For tires, fumed silica can significantly improve the physical and mechanical properties of the rubber compound, decrease rolling resistance, and improve safety performance in raining weather.Silica will soften the scratch between rubber molecules, this decreases energy loss and saves vehicle fuel consumption. Besides, as fumed silica is white powder, it`s easy to mix with other colors, giving chance for producing colorful tires.



FUMED NANOMATERIAL EXPERT

Grade	Specific Surface Area (nitrogen adsorption method) (m ² /g)	pH value in dispersion	Loss at 105°C (%)	Loss on ignition (%)	Sieve residue (45μm) (mg/kg)	Silica content (%)	Carbon content (%)	Tamped density (g/L)	Product application
Hydrophilic Fumed Silica									
HL-90	100±20	3.9~4.5	≤1.0	≤1.5	≤250	≥99.8	—	45~60	Surface-treatment for base materials, Polish & Grind, Coatings, Printing inks, Personal Care Products, Food
HL-150	150±15	3.9~4.5	≤1.5	≤2.0	≤250	≥99.8	—	40~60	Silicone rubber, rubber, offset printing, medicines, cosmetics, creams, thermal insulation materials
HL-200	200±20	3.9~4.5	≤2.0	≤2.0	≤250	≥99.8	—	40~60	Silicone rubber, adhesives, inks, coatings, pharmaceuticals, defoamers, thixotropic resins, gel coat resins
HL-260	260±20	3.7~4.5	≤2.0	≤2.0	≤250	≥99.8	—	40~60	HTV & LSR Silicone Rubbers, Adhesives, Coatings & Printing Inks, UPR resins, Thermal Materials
HL-300	300±25	3.7~4.5	≤2.0	≤2.5	≤250	≥99.8	—	40~60	Silicone rubber, rubber, coatings, paint
HL-380	380±30	3.7~4.5	≤2.5	≤2.5	≤250	≥99.8	—	40~60	Silicone rubber, defoamer, ink, adhesive, pesticide
HL-450	450±30	3.7~4.5	≤2.5	≤2.5	≤250	≥99.8	—	40~60	High transparent LSR, Adhesives, Coatings & Printing Inks, Deformers, Carrier
Hydrophobic Fumed Silica									
HB-612	140±20	5.0~8.0	≤0.7	≤2.0	—	≥99.8	0.7~1.3	40~60	Room temperature vulcanization (RTV) silicone rubber, ceramics, pesticides, defoamers
HB-615	140±20	5.0~8.0	≤0.7	≤4.0	—	≥99.8	1.0~1.7	40~60	Ink, electronic potting adhesive, defoamer, silicone rubber
HB-620	170±30	6.0~9.0	≤0.7	≤4.0	—	≥99.8	1.5~2.5	40~60	Silicone rubber, powder coating, defoamer, paint
HB-630	300±30	6.0~9.0	≤0.7	≤5.0	—	≥99.8	2.5~4.0	40~60	
HB-132	140±20	6.0~9.0	≤0.7	≤4.0	—	≥99.8	2.0~4.0	40~60	Silicone rubber, defoamer, adhesive, sealant
HB-139	110±30	4.0~7.0	≤0.7	≤10.0	—	≥99.8	4.0~7.0	40~60	Powder coatings, adhesives, coatings, sealants
HB-151	120±30	≥3.7	≤0.7	≤2.5	—	≥99.8	0.6~1.2	40~60	Coatings, inks, adhesives, MS adhesives
HB-152	170±30	≥3.7	≤0.7	≤2.5	—	≥99.8	0.8~1.6	40~60	
HB-202N	170±20	8.0~10.0	≤2.0	≤8.0	—	≥99.8	1.0~2.0	40~60	Coatings, anticorrosive coating products, grinding of copper products, water-based inks and water-based coatings
HB-701	150±25	4.0~6.0	≤1.5	≥4.5	—	≥99.8	4.5~6.5	40~60	Paint and coating systems, plastics and elastomers, dental composites
Testing Method	GB/T 20020								
HB-612、HB-615、HB-620、HB-630、HB-132(HMDS-Treated)									
HB-139(PDMS-Treated)									
HB-151、HB-152(DDS-Treated)									
HB-202N、HB-701(Special Silane Treated)									

Grade	Specific surface area (BET)	pH in 4% dispersion	Loss on drying (2 hours at 105°C)	Loss on ignition (2 hours at 1000°C)	TiO ₂ Content (based on ignited material)	Tamped density	Crystalline Structure	Product application
Fumed Titanium Dioxide								
NT-50	50±15	3.5~4.5	≤1.5	≤2.5	≥99.5	140±40	混合晶型	silicone rubber, photocatalyst, Li-ion batteries, self-cleaning coating, Antibacterial paint, sun-block cream

Grade	Specific surface area (BET)	pH in 4% dispersion	Loss on ignition (2 hours at 1000°C)	Al ₂ O ₃ Content (based on 300°C dried material)	Crystalline Structure	Product application
Fumed Aluminium Oxide Al ₂ O ₃						
ALuna-100	100±15	≥3.9	≤2.0	≥98.0	混合晶型	powder coatings, printing ink, Li-ion batteries, electret masterbatch, thermal insulation material, fluorescent lighting