XIANGRUN

Production of Sorbents and Catalysts

Activated Alumina & Pseudoboehmite & Molecular sieve

Alumina adsorbent, Pseudo boehmite & Molecular sieve

Quality and advanced Technology

About XiangRun

Catalyst & Adsorbent

Why Choose Xiangrun?

- Zibo XiangRun Environment Engineering Co., Ltd (Shandong Bairui Chemical Technology Co.,Ltd) is a leading adsorbent ,desiccant and catalyst manufacturer in China and world. Our company was established in 2010, located in Zibo, Shandong. We manufacture several kind of alumina adsorbent, alumina-based adsosrbent, Potassium permanganate alumina, pseudo boehmite alumina, alumina powder and alumina beads products. And we invest in the biggest molecular sieve factory In China.
- Our group offers exceptional expertise in the development of technology. Advanced technology is our best advantage. XiangRun and Bairui can blend the bulk perfect technology information to solve your issues in purification ,desiccant, adhesive in catalyst, petrochemical, oil and chemical industry. Our products pass ISO9001:2008 and SGS certificate.
- The excellent service is our another advantage. Our all customer could certify us. Over the past years, we have established business relationships with many famous companies worldwide, including the China National Petroleum Cooperation, Sinopec, and the Petrochemical Industry Company from Germany, Britain, Kuwait, Saudi Arabia, Iran, Syria, Jordan, South Korea, New Zealand, Thailand, Indonesia, the Philippines, and many other countries.

Products Type

- * Activated alumina Desiccant * Alumina adsorbent for Hydrogen Peroxide * Sulfur recovery catalyst
- * Alumina catalyst carrier * Alumina for defluorination agent
- * Alumina adsorbent for removal of chloride * Activated alumina powder
- * Alumina based Catalyst * Alumina adsorbent for COS removal * Alumina adsorbent for removal of TBC
- * Impregnated activated alumina
- * Molecular Sieve 13X * Molecular 5A *Molecular 4A * Molecular 3A * Molecular sieve powder
- * Pseudo boehmite
- * Alumina balls

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Xiangrun's Activated alumina

Activated Alumina adsorbent

Zibo Xiangrun and Shandong Bairui produce a variety of standard and customized activated aluminas for adsorption and catalytic applications in hydrocarbon processing and related industries.

-Dehydration of gas and liquid streams

-Sulfur recovery via Claus catalysis

-Catalyst substrates and precursors

-Purification of hydrocarbons streams via selective adsorption of polar contaminants

-Refrigerant purification **-Purification of industrial gases**

-Bed support / heat transfer media

Adsorbent

(Desiccant, Chloride adsorbent, defluorination, Hydrogen peroxide)

Catalyst

(Sulfur recovery, catalyst carrier, CO-MO Sulfur tolerant shift conversion catalyst Carrier, Dehydrogenation catalyst carrier)

Purification

(TBC purification , deflorination in hydrofluoric alkylation, COS purification)

Impregnated activated alumina

- Kmno4 Activated alumina
- NaMno4 Activated alumina

Alumina powder

- Activated alumina powder
- Aluminium hydroxide

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Activated alumina

1.1 XR-101 Activated Alumina for Desiccant

XR101 activated alumina desiccant is adsorbent used most widely to adsorb water in compressed air and produce high quality dry air.

Product Information:

As a model of water adsorbents in China, XR101 activated alumina desiccant ball is used most widely in the country. It has a smooth surface and uniform size.

* Various size available for the international condition.

7* 14 mesh(2.0mm), 1/8" (3.2mm), 3/16"(4.7mm), 1/4"(6.4mm)

Characteristics:

- High bulk density
- Uniform size
- High mechanical strength and wear resistance

As a model produced by long development production technology,XR101 activated alumina ball is a water adsorbent for compressed air for exclusive use. Especially, it has excellent wear resistance, therefore it causes little dust in compressed air.

- High pore volume and high adsorption

With large surface area, XR101 activated alumina balls adsorb higher amount of water and fast desorption during regeneration. Its life is longer, and it has a remarkable capacity to regenerate.

Item	Unit	Technical requirement			
Particle size	mm	3-5	4-6	5-8	8-10
AL2O3	%	≥93.8	≥93.8	≥93.8	≥93.8
SiO_2	%	≤0.10	≤0.10	≤0.10	≤0.10
Fe_2O_3	%	≤0.04	≤0.04	≤0.04	≤0.04
Na_2O	%	≤0.40	≤0.40	≤0.40	≤0.40
Attrition Loss	%	≤0.08	≤0.08	≤0.08	≤0.08
Bulk density	g/ml	≥0.75	≥0.75	≥0.75	≥0.75
Surface area	㎡/g	≥345	≥345	≥345	≥345
Pore Volume	ml/g	0.5	0.5	0.5	0.5
Water absorption	%	≥55	≥55	≥55	≥55
Crushing Strength (N/Particle)	N/particle	≥180	≥200	≥260	≥350

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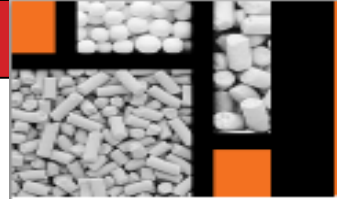
1.2.1 XR-102 A Clause sulfur recovery

The Claus process is a catalytic-based chemical technology used in converting gaseous hydrogen sulfide (H2S) into elemental sulfur (S). Effective catalysts for the Claus reaction generally utilize XR102 activated alumina. This activated alumina ball is an extremely porous aluminum oxide. XR102 activated alumina for sulfur recovery are critical to optimum catalytic performance.

Characteristics:

- High surface area
- Large pore volume distribution
- Low dusting and high crush strength
- Uniform sphere size and shape

Item	Unit	Technical requirement	
Particle size	mm	4-6	5-7
AL2O3	%	≥92	≥92
SiO_2	%	≤0.10	≤0.10
Fe_2O_3	%	≤0.03	≤0.03
Na_2O	%	≤0.4	≤0.4
Bulk density	g/ml	0.7-0.8	0.7-0.8
Surface area	㎡/g	≥320	≥320
Pore Volume	ml/g	0.40-0.45	0.40-0.45
Crushing Strength (N/Particle)	N/particle	≥160	≥200



1.2.2 XR-102 B TiO2 Sulfur recovery

Activated TiO2 sulfur recovery catalyst could effectively realize high sulfur conversion in low temperature, highly remove oxygen and reduce to form sulfate. In the clause unit, it could promote purification and activated alumina life.

Characteristics

•High activated hydrolytic;

•low activated temperatures;

•Stable structure of catalyst;

•Good activated stability;

•Bimodal distribution of the pore structure is more available for gas diffusion, and Claus reaction;

•Long life time.

•4-8% TiO2 content

Condition

•Temperature: 200 ~ 350 ℃

•Pressure: ~ 0.2MPa

•Airspeed: 200 ~ 1000h-1

Item	Unit	Value
Colors and shapes	_	White spherical
Dimensions	mm	Φ3-5/ Φ4-6
Al2O3%	Wt%	≥90
TiO2%	Wt%	4-8
Specific surface area	m2 / g	≥280
Pore volume	ml / g	0.45-0.50
Bulk density	kg / L	0.65 to 0.80
Crushing force	kg / particle	15/18

1.2.3 XR-102 C Fe2O3 Sulfur recovery

Activated TiO2 sulfur recovery catalyst could effectively realize high sulfur conversion in low temperature, highly remove oxygen and reduce to form sulfate. In the clause unit, it could promote purification and activated alumina life.

Characteristics

•High activated hydrolytic;

•low activated temperatures;

•Stable structure of catalyst;

•Good activated stability;

•Bimodal distribution of the pore structure is more available for gas diffusion, and Claus reaction;

•Long life time.

•4-8% TiO2 content

Condition

•Temperature: 200 ~ 350 ℃

•Pressure: ~ 0.2MPa

•Airspeed: 200 ~ 1000h-1

Item	Unit	Value
Colors and shapes	_	Bronzing spherical
Dimensions	mm	Φ4-6
Al2O3%	Wt%	≥90
Fe2O3%	Wt%	4-6
Specific surface area	m2 / g	≥280
Pore volume	ml / g	0.40-0.45
Bulk density	kg / L	0.70 to 0.80
Crushing force	N / particle	200

1.3 XR-103 & XR408 Column /clover shaped Alumina Catalyst carrier

XR103 & XR408 alumina catalyst carrier is a good catalyst carrier in petrochemical, hydride sulfurization, low temperature shift catalyst.

alumina catalyst carrier is mainly composed of X-Rho(ρ) activated alumina produced by the speedy dewatering process and false water alumina gel produced by continuous carbonization method and adopts advanced molding technology. It owns stable surface area, high compressive strength, low abrasion, proper pore structure, low impurities and good active impregnation and other good properties etc.

We could produce different crystal phases, diameter and content of impurities according to user requirements. Widely used in petrochemical, hydride sulfurization, low temperature shift catalyst carrier.

Characteristics

- Stable surface area
- High compressive strength
- low dust and abrasion
- Good active imporegnation
- Low impurity

1.4 XR-104 Chloride adsorbent

In petrochemical production process, chlorine in feed gas could cause poisoning of a variety of catalyst and adsorbent, the failure of adsorbent & catalyst performance, severely corrosivity of devices & equipment, so chlorine removal is necessary. Usually, we adopt solid antichlor to remove chloride in feed gas. XR-104 activated alumina balls for dechlorination is an high- efficient product to take off chlorine.

XR104 chloride purification is a spherical surface modified adsorbent, custom formulated to provide optimum adsorption of HCl for vapor and liquid phase process streams. It also eliminates problems generated by water washing of process equipment chloride deposits.

It could fully replace BASF CL-760.

Various size available for the international condition.

1/8" (3.2mm), 3/16"(4.7mm)

Characteristics:

- Uniform size
- Even and Uniform activity under high and low
- Good water resistance and strong strength
- Uneasy movable active components & chlori
- Wide application area

Working service:

Working temperature:5-400℃

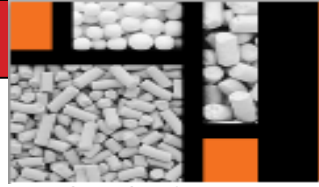
Working pressure: ordinary pressure- 0.8MPA

Space velocity: 1000-3000h-1

Bed height-diameter ratio: ＞3

Dechlorination ratio: ≥99.9%

Item	Unit	Technical requirement
Appearance		White bead
Particle size	mm	3-5mm, 2-4mm
AL2O3+promotor	%	≥93
Bulk density	g/cm³	0.75-0.9
Surface area	㎡/g	≥130
Pore Volume	ml/g	≥0.4
Penetration of chlorine capacity(50℃)	%	≥12
Penetration of chlorine capacity(250℃)	%	≥22
Crushing Strength (N/Particle)	N/particle	≥85



1.5 XR-105 Defluorination agent

XR105 Activated alumina is the only filter material specifically designed to remove fluoride and arsenic from water. A ceramic compound made of aluminum oxide with a very high surface-area-to-weight ratio, XR105 activated alumina balls have a very high capacity for fluoride adsorption. Most municipal water supplies add 2 ppm (parts per million) of fluoride. XR105 activated alumina filters can reduce fluoride concentrations to below .1 ppm, or down to 99% of the normal fluoridated water level. The defluorination capacity of XR105 activated alumina ball could reach 5mg/h. And it can be regenerated after heated in the temperature about 175° c to 315° c to removing water once it's reached saturation.

Characteristics

- High bulk density
- Uniform size
- High mechanical strength and wear resistance
- High pore volume and high adsorption

Item	Unit	Technical requirement		
Particle size	mm	1-2	2-3	3-5
AL2O3	%	≥93	≥93	≥93
SiO2	%	≤0.10	≤0.10	≤0.10
Fe2O3	%	≤0.04	≤0.04	≤0.04
Na2O	%	≤0.30	≤0.30	≤0.30
Bulk density	g/ml	0.7-0.8	0.7-0.8	0.7-0.8
Surface area	㎡/g	≥320	≥320	≥320
Pore Volume	ml/g	0.4-0.5	0.4-0.5	0.4-0.5
Crushing Strength (N/Particle)	N/particle	≥50	≥50	≥100

1.6 XR-107 Adsorbent for Hydrogen Peroxide(H_2O_2)

XR107 activated alumina is γ-Al2O3, using intermediate in the speedy dewatering process as raw materials to make white pellets. It is high strength, non-soluble in water , hydrocarbons, alcohol, grease and other organic solvents. It doesn't become powder and soft in water and alkali. It is odorless, tasteless, non-toxic, long life and high degradation of anthraquinone derivatives and regeneration ability. XR105 activated alumina is specific adsorbent of hydrogen peroxide(H2O2) in anthraquinone production. Excepting alkali adsorption, XR107 activated alumina balls highly adsorb the degradation of hydrogenation, reduce the consumption of anthraquinone and stabilize working fluid components.

Various size available for the international condition.

6* 10 mesh, 1/8" (3.2mm), 3/16"(4.7mm)

Characteristics:

- Uniform size
- High mechanical strength and wear resistance
- High pore volume and high adsorption

Item		Technical requirement	
Particle size	mm	2-4	3-5
AL2O3	%	≥93	≥93
SiO_2	%	≤0.10	≤0.10
Fe_2O_3	%	≤0.02	≤0.02
Na_2O	%	0.3-1.0	0.3-1.0
loss on ignition	%	≤6.0	≤6.0
Bulk density	g/ml	0.7~0.8	0.7~0.8
Surface area	㎡/g	280-350	280-350
Pore Volume	ml/g	0.45-0.5	0.45-0.5
Water absorption	%	≥52	≥52
Crushing Strength (N/Particle)	N/particle	≥80	≥100

1.7 XR-109 Activated alumina for Polymer Purification（TBC purification)

XR109 activated alumina is as a filtration media in polyethylene production. In this process, the slurry co-catalyst is filtered out of the polyethylene and trapped in the pores of the alumina bead. It could adsorb the catalyst residues, TBC(p-tert-Butylcatechol) and hydrocarbons in production of polyethylene and polymer. It Is the same characteristics as AXENS 230S.

•Various size available for the international condition.

•7* 14 mesh(1.2-2.8mm), 6*10mesh(1.5-3.2mm); 5*8(2.5-4.0mm)

Item	Unit	Technical requirement
Appearance		White bead
Particle size	mm	7*14mesh
AL2O3+promotor	%	≥93.5
Na2O	%	1.5-2.0
Bulk density	g/cm³	0.7-0.8
Surface area	㎡/g	300-330
Pore Volume	ml/g	0.45-0.5
Macroporosity	＞750A	0.13
Loss on ignition(300-1000℃)	%	4-7
Abrasion Loss	%	≤0.1
Static absorption RH%=20%	%	≥10
Static absorption RH%=60%	%	≥20
Static absorption RH%=95%	%	≥40
Crushing Strength (N/Particle)	N/particle	50

Characteristics:

High adsorbent and purification for styrene

Uniform size

1.8 XR112 Activated alumina for Deflorination in Hydrofluoric Alkylation

XR112 activated alumina removes fluoride from hydrocarbons in HF alkylation. Low levels of hydrofluoric acid are filtered through alumina beds.

Characteristics

- High surface area
- Large pore size and control over smaller pores
- High crush strength

Item	Unit	Technical requirement
Particle size	mm	3-5
AL2O3+Promotor	%	≥93
SiO_2	%	≤0.10
Fe_2O_3	%	≤0.04
Na_2O	%	≤0.40
Attrition Loss	%	≤0.08
Bulk density	g/ml	≥0.75
Surface area	㎡/g	≥320
Pore Volume	ml/g	≥0.45
Crushing Strength (N/Particle)	N/particle	≥180

1.9 XR125 COS Activated alumina

The alumina is as the basic carrier of composite COS activated alumina adsorbent. XR125 COS alumina adsorbent adopts physical adsorption, which could adsorb H2S, CS2, CO2 and H2O in the gas phase of hydrocarbon.

XRBRSORB COS is a smooth, spherical adsorbent with demonstrated removal of COS, CO_2, H_2S, and CS_2 from hydrocarbon streams. It is typically considered part of the performance protection and enhancement program for any refinery or petrochemical catalyst that is sensitive to sulfur compounds.

It Is the same characteristics as Selexsorb COS.

The applications:

1. In the production of polyethylene, XR125 COS activated alumina could effective adsorb TBC, H2O and catalyst residue.
2. In the polyethylene, polypropylene and styrene production, XR125 COS alumina adsorbent could se prevent downstream catalyst poisoning, so as to prolong the service life of catalyst.
3. It could selectively adsorb CO2, C2 and C4, sulfur compounds in hydrocarbon.

Item		Technical requirement	
Particle size	mesh	7*14	5*8
AL2O3+promotor	%	≥93	≥93
SiO_2	%	≤0.02	≤0.02
Fe_2O_3	%	≤0.02	≤0.02
Na_2O	%	0.3-1.0	0.3-1.0
Abrasion	%	≤0.06	≤0.06
Bulk density	g/ml	≥0.75	≥0.75
Crushing Strength (N/Particle)	N/particle	≥35	≥80

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3. It could selectively adsorb CO2, C2 and C4, sulfur compounds in hydrocarbon.

Item		Technical requirement	
Particle size	mesh	7*14	5*8
AL2O3+promotor	%	≥93	≥93
SiO_2	%	≤0.02	≤0.02
Fe_2O_3	%	≤0.02	≤0.02
Na_2O	%	0.3-1.0	0.3-1.0
Abrasion	%	≤0.06	≤0.06
Bulk density	g/ml	≥0.75	≥0.75
Crushing Strength (N/Particle)	N/particle	≥35	≥80

Xiangrun's Alumina adsorbent

XR-106 Impregnated Activated Alumina Filtration

1. XR2006 ®M KMNO4 Impregnated Activated alumina

XR2006®M impregnated activated alumina with KMNO4 media is a high surface area activated alumina pellet, impregnated with potassium permanganate during its manufacturing. Xiangrun filtration media adopts mixing material technology, not immersion.

Item	Unit	Technical requirement		
Particle size	mm	2-4	3-5	4-6
AL_2O_3	%	≥80	≥80	≥80
$KMnO_4$	%	6-10	6-10	6-12
Bulk density	g/ml	0.85-0.9	0.85-0.9	0.85-0.9
Surface area	㎡/g	≥250	≥250	≥250
Pore Volume	ml/g	≥0.42	≥0.42	≥0.42
Crushing Strength (N/Particle)	N/particle	≥50	≥80	≥100
Pressure Drop @ 50 fpm (0.25 m/s):		1.0 in. of water/ft. of bed	1.0 in. of water/ft. of bed	1.0 in. of water/ft. of bed
H2S Capacity	g/ml	0.85-1.2	0.85-1.2	0.85-1.2

2. XR2007®I impregnated activated alumina with NaMNO4 media

is a high surface area activated alumina pellet, impregnated with Sodium permanganate during its manufacturing. The result is a chemical filter with highly enhanced performance in removing Hydrogen Sulfide (H2S), Sulfur Dioxide (SO2), Nitrogen Dioxide (NO2), Mercaptans.

It is the three times than immersion KMNO4 impregnated activated alumina.

Item	Unit	Technical requirement	
Particle size	mm	3-5	4-6
AL_2O_3	%	≥70	≥70
$NaMnO_4$	%	≥6.0	≥6.0
Bulk density	g/ml	≥0.90	≥0.90
Surface area	㎡/g	≥200	≥200
Pore Volume	ml/g	≥0.42	≥0.42
Crushing Strength (N/Particle)	N/particle	≥100	≥150

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Xiangrun's Activated alumina

Activated alumina powder(Rho Alumina Powder)

Activated alumina powder is also known as the p - alumina powder, which is a alumina transition phase. Its main crystal phase is p alumina base. P alumina is made by aluminum hydroxide through suspension roasting rapid dehydration and rapid cooling system. Its specific surface area is more than 200㎡/g, so it has strong flexibility , water absorption performance, and certain hydration.

It Replace pure calcium aluminate cement in refractory castable binder, and also instead of micro silicon powder and ultrafine alumina powder in adhesive and binder.

Characteristics:

- High surface area
- Low LOI
- High AL2O3

Item	Unit	Technical requirement
Particle size	um	10±0.5
ρ-AL_2O_3	%	≥65
AL_2O_3	%	92
SiO_2	%	≤0.02
Fe_2O_3	%	≤0.02
Na_2O	%	0.30-0.4
Surface area	㎡/g	250-300
Pore Volume	ml/g	0.20-0.25
LOI	%	≤10

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Thanks a lot for your visit!

We trust our best quality, best service, and competitive price could let our customers believe in us.

You could find us as below information:

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