1 1. Product Overview:

Activated alumina is a highly porous and chemically stable material produced through the dehydroxylation of aluminum hydroxide. It exhibits outstanding adsorption capacity, high mechanical stability, excellent thermal resistance, and broad chemical compatibility, making it ideal for various industrial processes.
As a leading brand, CarbonFresh offers a wide range of activated alumina products engineered for critical applications such as fluoride removal, gas drying, contaminant gas purification, liquid processing, and catalytic support. Each grade is optimized to meet stringent industrial requirements with consistent global performance.

2. Key Features

- Superior Adsorption Efficiency:

Excellent adsorption of moisture, fluoride, arsenic, and toxic gases ensures top-level purification and drying performance.

- Outstanding Thermal Stability:

Maintains structural integrity under high temperature and pressure conditions.

- High Mechanical Strength:

Withstands harsh process environments, minimizing breakage and extending product life.

- Environmentally Friendly:

Non-toxic, odorless, and water-insoluble, compliant with international environmental standards.

3. Typical Industrial Applications

Gas and Liquid Drying

Efficiently removes water from compressed air, natural gas, hydrogen, oxygen, ethylene, and propylene — achieving dew points as low as -40° C or below.

Water Treatment

Removes fluoride, arsenic, and other impurities in potable and industrial wastewater.

Catalyst Support

Serves as a durable carrier in processes such as steam reforming, alkane dehydrogenation, and hydrogen peroxide production.

Gas Purification

Adsorbs harmful gases including H_2 S, HF, and residual chlorine, reducing emissions and protecting equipment.

4. Product Grades and Applications

Model	Main Application	Key Features & Benefits
KA100	TBC removal in polymer and polyethylene production	Specially formulated to remove tertiary butyl catechol; ensures monomer purity and stable polymer manufacturing.
KA401	General gas and liquid drying	Widely used in hydrogen, ethylene, and oxygen drying. Achieves low dew point (-40° C) and excellent regeneration.
KA402	Fluoride & arsenic removal in water treatment	Designed for fluoride and arsenic adsorption; ideal for drinking and wastewater purification.
KA403	Hydrogen peroxide (H_2O_2) purification	Optimized adsorbent for impurity removal to enhance H_2O_2 purity and yield.
KA404	Catalyst support for industrial reactions	High surface area and adjustable pore distribution; stable in extreme operating conditions.
KA405	Air separation and gas drying	Provides deep drying capacity for air separation and gas handling systems.
KA406	Dechlorination in gas purification systems	Removes residual chlorine in chemical and industrial gas environments, preventing corrosion.

5. Technical Specifications

Property	KA100	KA401	KA402	KA403	KA404	KA405	KA406
Appearance	White spheres	White spheres	White spheres	White spheres	White spheres	White spheres	White spheres
Crystal Phase	-	Xp	Xp	Xp	Y	Xp	Xp
Al_2O_3 Content (%)	≥93	≥93	≥93	≥93	≥93	≥93	≥90
Na_2O Content (%)	≤0.3	≤0.3	≤0.3	≤0.3	0.15-0.3	≤0.3	≤0.3
Loss on Ignition (%)	≤8	≤8	≤8	≤8	≤5	≤8	6-8
Bulk Density (g/ml)	0.70-0.80	0.68-0.72	0.70-0.75	0.65-0.75	0.70-0.80	0.75-0.80	0.68-0.72
Surface Area (m^2/g)	300-330	≥300	≥300	260-300	≥300	≥300	≥300
Pore Volume (ml/g)	0.45-0.50	0.30-0.45	0.30-0.42	0.40-0.46	0.40	0.30-0.50	0.30-0.50
Crushing Strength (N)	Ø3-5: ≥150	Ø1-2: ≥40	Ø2-3: ≥70	Ø3-5: ≥150	Ø4-6: ≥180	Ø3-5: ≥150	Ø4-6: ≥110
Loss Rate (%)	≤1.0	≤1.0	≤1.0	≤1.0	≤0.4	≤0.8	≤0.8

6. Packaging and Storage

- Supplied in 25 kg or 50 kg moisture-proof bags or customized packaging upon request.
- Store in a cool, dry environment. Avoid direct contact with water to maintain adsorption performance.
- Recommended shelf life: 24 months under proper storage conditions.

7. Safety Information

Activated alumina is chemically inert and classified as non-hazardous. Refer to Aluminum Oxide MSDS for detailed handling and safety instructions.

8. Contact Information

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All data are typical values, provided for reference only. CarbonFresh reserves the right to modify product specifications without prior notice.