

# F-200

## Activated Alumina for Liquid and Gas Drying

**BASF F-200 is a smooth sphere of activated alumina produced by BASF's unique manufacturing process. F-200 is an excellent desiccant for drying a wide variety of liquids and gases. Although all molecules are adsorbed to some extent on F-200 activated alumina, those molecules having the highest polarity are preferentially absorbed. Stream conditions such as pressure, concentration and molecular weight of the molecules, temperature and site competing molecules affect the efficiency of adsorption. F-200 is available in nominal sizes of 1/16", 1/8", 3/16" and 1/4" spheres.**

### Product Benefits

#### 1. Uniform ball size

This property is especially useful in high pressure gas dehydration where minimizing pressure drop is important. The uniform size and sphericity of BASF F-200 prevents adsorbent segregation during pneumatic loading, thus minimizing channeling and yielding more efficient use of the entire desiccant tower.

#### 2. High crush strength

BASF F-200 has high crush strength which allows rapid pneumatic loading of towers. The high crush strength also allows use of taller towers that make more efficient use of the desiccant. BASF F-200 activated alumina is highly resistant to amine attack. Furthermore, BASF F-200's high crush strength enables it to dehydrate acid containing gases and liquids, such as CO<sub>2</sub>, for a longer operating life.

#### 3. Low abrasion

The low abrasion of BASF F-200 ensures less dusting during transport, loading, and service life which reduces pressure drop and minimizes down-

stream valve and filter plugging, common with dustier products.

#### 4. High adsorptive capacity

BASF F-200's high surface area and tailored pore distribution provide a high dynamic H<sub>2</sub>O adsorption capacity. With proper tower design and effective regeneration, F-200 can achieve an ultra low H<sub>2</sub>O effluent specification (i.e. dew point). BASF F-200 also has excellent cyclic stability that yields a long life.

#### Available Packaging

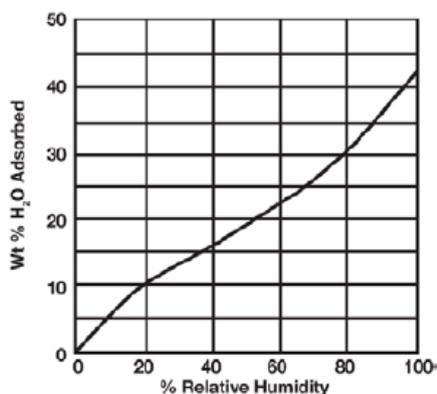
- 50 lb bags
- 375 lbs steel drums
- 2000 lb super sacks



We create chemistry

## Product Data Sheet

Typical Physical Properties	7X14 Tyler Mesh (2.0 mm)	1/8" (3.2 mm)	3/16" (4.7 mm)	1/4" (6.4 mm)
Surface Area, m <sup>2</sup> /g	360	350	340	320
Total Pore Volume, cc/g	0.5	0.5	0.5	0.5
Packed Bulk Density, lbs/ft <sup>3</sup> (kg/m <sup>3</sup> )	48 (769)	48 (769)	48 (769)	48 (769)
Crush Strength, lbs (kg)	11 (5)	30 (14)	55 (25)	70 (32)
Abrasion Loss, wt %	0.1	0.1	0.1	0.1



### Typical Chemical Composition (wt %)

Al <sub>2</sub> O <sub>3</sub>	92.7
SiO <sub>2</sub>	0.02
Fe <sub>2</sub> O <sub>3</sub>	0.02
Na <sub>2</sub> O	0.30
LOI (250-1100° C)	7.0

## Product Applications

### 1. Drying

Nearly all gases and liquids can be dried with F-200. Water removal is often necessary for efficient processing, storage and transportation of fluids. The 3/16" size is normally recommended for vapor phase dehydration applications where pressure drop minimization yet high H<sub>2</sub>O adsorptive capacity is desired. The 1/8" and 7 x 14 Tyler mesh sizes are recommended for use in liquid dehydration and other mass transfer limited adsorption applications.

BASF F-200 activated alumina is the industry standard for drying compressed air. Providing long service life with performance at or below dew point specifications, F-200 is a 'peace of mind' product for both large and small dryers. BASF F-200 is appropriate for use in dehydrating gases in both thermally regenerative (350 to 600°F) and pressure swing (PSA) modes.

### 2. Acid removal

Transformer oils, lubricating oils, and refrigerants form degradation acids upon use. BASF F-200 will remove these acids during use. In the manufacture of chlorinated and/or fluorinated hydrocarbons, removal of these residual halides and water is essential for a non-corrosive product.

### 3. Process stream purification

BASF F-200 is excellent for removal of highly polar compounds such as water and alcohol. It also readily adsorbs TBC and heavy metal ions from hydrocarbons.

### 4. Hydrocarbon adsorption

Under proper operating conditions, the pore size distributions and surface chemistry of activated aluminas are conducive to the adsorption of hydrocarbons.

## About Us

BASF's Catalysts division is the world's leading supplier of environmental and process catalysts. The group offers exceptional expertise in the development of technologies that protect the air we breathe, produce the fuels that power our world and ensure efficient production of a wide variety of chemicals, plastics and other products, including advanced battery materials. By leveraging our industry-leading R&D platforms, passion for innovation and deep knowledge of precious and base metals, BASF's Catalysts division develops unique, proprietary solutions that drive customer success.

**BASF - We create chemistry**

### Americas

BASF Corporation  
25 Middlesex/Essex Turnpike  
Iselin, New Jersey, 08830, USA  
Tel : +1-732-205-5000  
Fax: +1-732-205-7725  
Email: [catalysts-america@basf.com](mailto:catalysts-america@basf.com)

### Asia Pacific

BASF (China) Company Limited  
300 Jiang Xin Sha Road,  
Pudong, Shanghai 200137  
P.R. China  
Tel: +86-21-2039 2549  
Fax: +86-21-2039 4800-2549  
Email: [catalysts-asia@basf.com](mailto:catalysts-asia@basf.com)

### Europe, Middle East, Africa

BASF De Meern BV Catalysts  
The Netherlands  
Tel: +31-30-666 9437  
Email: [catalysts-europe@basf.com](mailto:catalysts-europe@basf.com)

Although all statements and information in this publication are believed to be accurate and reliable, they are presented gratis and for guidance only, and risks and liability for results obtained by use of the products or application of the suggestions described are assumed by the user. NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH. Statements or suggestions concerning possible use of the products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that toxicity data and safety measures are indicated or that other measures may not be required. © 2015 BASF

BASF-9201 Rev 08/17