

## PAL M-400

### High density pseudoboehmite alumina

BASF PAL M-400 is a wide pore, high density pseudoboehmite alumina.

#### Description

BASF PAL M-400 is a pseudoboehmite alumina, also known as an aluminum monohydrate, AlO(OH). It is produced as a dry white powder with excellent fluidization characteristics. The powder is easily dispersed by most mulling operations. Extruded products exhibit good strength and high attrition resistance with predictable pore volume distribution.

#### Applications

Product uses vary among chemical, abrasive, and catalyst manufacturers. Outstanding properties include high purity (see chemical composition), reactivity, and excellent binding/bond formation. When heated to approximately 450-500°C, BASF PAL M-400 is converted into high porosity, high surface area gamma alumina.

#### Safety & handling

BASF PAL M-400 alumina is classified as nontoxic nuisance dust and does not produce significant organic diseases or toxic effect with reasonable exposure. Normal good housekeeping and operating procedures should ensure personnel safety. The data contained herein are for general informational purpose only. Please refer to the material safety data sheet for specific, complete information regarding these products.

#### Available Packaging

- 1 mt super sacks

#### Chemical composition (wt %), typical

|                                |       |
|--------------------------------|-------|
| Al <sub>2</sub> O <sub>3</sub> | 70    |
| Na <sub>2</sub> O              | <0.02 |
| SO <sub>4</sub>                | <0.45 |
| LOI (1000°C)                   | 25-33 |

#### Physical properties, typical

|  |                      |
|--|----------------------|
| Alumina phase                                  | Pseudoboehmite (PSB) |
| Loose bulk density (as is), kg/m <sup>3</sup>  | 650-750              |
| Surface area, m <sup>2</sup> /g (1 hr @ 550°C) | 320                  |
| Nitrogen pore volume (1 hr @ 550°C)            | 0.65                 |
| d <sub>50</sub> , microns                      | 28-34                |

Temperature transformations - As PAL M-400 is heated the following transformations occur:

|               |                 |   |                         |
|---------------|-----------------|---|-------------------------|
| @ 250°C       | PAL M-400       | → | Non-dispersible PSB     |
| @ 350-450°C   | Non-dispersible | → | Gamma alumina           |
| @ 800-900°C   | Gamma           | → | Delta/theta alumina     |
| @ 1000-1100°C | Theta           | → | Alpha conversion begins |
| @ 1300-1600°C | Alpha (porous)  | → | Sintered alpha alumina  |

## 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.

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### 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)

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