



## Global Product Data

# Almatis Aluminum Trihydroxides

### Almatis offers the broadest range of alumina products in the world

Hydrated alumina, also known as alumina trihydrate (ATH), or simply hydrate, is more accurately designated chemically as aluminum trihydroxide,  $\text{Al}(\text{OH})_3$ .

On heating, ATH condenses with itself releasing 34% water to form aluminum oxide (alumina). This process is, in part, what makes ATH an effective flame retardant. It is a nonabrasive powder with a Mohs hardness index of 2.5 – 3.5 and a specific gravity of 2.42. Almatis ATHs are outstanding in purity, whiteness, and chemical reactivity, and are widely used by chemical, catalyst, ceramic, polymer, paper, and coatings manufacturers.

Almatis ATHs are available in several ground and unground grades of varying purity and particle sizes.

### Product Description

#### Hydral® Series Aluminum Trihydroxide

Almatis Hydral products are specially precipitated aluminum trihydroxides. They are ultra-fine, crystalline, organic-free, pure white powders.

These products can be tailored for specific applications. They display outstanding flame retardant and smoke suppressant properties for thermoset and thermoplastics as well as elastomeric copolymers. They are particularly useful as fillers and coating pigments for fine printing papers for increased brightness, smoothness, and opacity. They are also useful as a reinforcing pigment in adhesives and adhesive tapes, and in waxes and polishes when a relatively soft and extremely fine mild abrasive is required.

**Hydral 710** has a median particle diameter of 1 micron with 90% of the powder within 0.5 micron of the median.

**Hydral PGA** is Hydral 710 that has been spray dried in the presence of a dispersant. Spray drying increases the bulk density and improves flow characteristics for better handling and bulk shipping.

**Hydral PGA HD** is also spray dried 1 micron precipitated ATH. It has a loose bulk density that is 25% higher than regular Hydral PGA. It is designed for applications where flow and bulk density is critical to the compounding process.

**Hydral 9280** is a newly developed 1.8 micron precipitated ATH with reduced surface area. It improves extrusion and injection molding performance by reducing the formulation viscosity and rheological stresses.



# Almatris Aluminum Trihydroxides

## Product Description (continued)

### SpaceRite®

SpaceRite aluminum trihydroxides function as spacers and extenders for surface coatings such as trade and commercial paints, powder coatings, inks, UV curable coatings, and 100% solids systems. They are suitable for both solvent-borne and water-borne formulations used for interior or exterior coatings. Their low oil absorption characteristics make them excellent choices for gloss and semi-gloss coatings.

**SpaceRite S-11** is a special purpose white aluminum trihydroxide processed to yield extremely fine, uniform particles averaging about 0.25 micron in diameter. It is designed to act as an optimum spacer material for titanium dioxide pigmented coating systems.

**SpaceRite S-3** is a pure white aluminum trihydroxide with a uniform average particle size of 1.0 micron in diameter. It functions as an effective extender for titanium dioxide pigmented formulations, high-solids coatings for VOC reduction, and as a nonreactive extender for UV curable coatings.

### Hydral® Coat Series

The Hydral Coat products 5, 7, and 8 were specifically designed for improved rheology in paper coating applications. Their unique particle size distributions add unique optical properties to the finished paper.

Hydral Coat products can also be used in flame retardant and electrical applications where higher surface area ATHs are required.

**Hydral Coat 5** is a fully dispersed 0.5 micron particle product available as a slurry and as a dry product.

**Hydral Coat 7** is a 0.7 micron product available as a slurry and as a dry product.

**Hydral Coat 8** is a 0.8 micron product available as a slurry and as a dry product.

All of the Hydral Coat products are available as cationic and anionic slurries. If you have a particular request, please

contact us.

### HyBrite™ 100

**HyBrite 100** is an ATH slurry designed for paper filling applications. It is a high whiteness filler that can displace titanium dioxide in most filler applications.

HyBrite 100 is a 1.0 micron product available as a slurry with a minimum of 67% solids.

### ATH for Cast Polymer/Solid Surface

**Onyx Classica®** aluminum trihydroxides OC-1000, OC-1500, and OC-2000 were developed specially for synthetic onyx and fully densified, solid surface applications. They are considered to be the premium products of the cast polymer industry. These ultra bright ATH have the exceptionally high purity, whiteness, and consistent particle sizes that are required in cultured onyx and solid surface materials manufacturing. In addition, they add halogen-free flame retardant smoke suppressant properties to cultured onyx. They are easy to pigment and compatible with most resin formulations. Onyx Classica is available in several different particle size formulations. This variety allows manufacturers to design casting mixes to their own specific requirements.

**BayGranite® 17** is a light cream colored aluminum trihydroxide offering low viscosity at the lowest cost. It is excellent for darker granite colors such as browns, grays, and reds where high whiteness and translucency are not as important.

### FlameGard® ATH

**Almatris FlameGard ATH** is an aluminum trihydroxide designed for use as a flame retardant and smoke suppressant additive in polymeric adhesive backing systems for tufted carpeting. It is a relatively coarse ATH with a median particle size distribution in the range of 22–26 microns. It provides high loading potential in high viscosity carpet backing compounds.



## Almatis Aluminum Trihydroxides



### Contacts for sales, technical information and application assistance

**Almatis GmbH**

Lyoner Straße 9  
60528 Frankfurt/Germany

Phone  
**49 69 957 341 0**

Fax  
**49 69 957 341 13**

**Almatis, Inc.**

501 West Park Road  
Leetsdale, PA 15056  
USA

Phone (within US)  
**1 800 643 8771**

Phone (outside US)  
**1 412 630 2800**

Fax  
**1 412 630 2900**

**Qingdao Almatis Co., Ltd.**

15F, Sunshine Tower  
61 Hongkong Middle Road  
Qingdao, 266071, China

Phone  
**86 532 8572 8035**

Fax  
**86 532 8572 8551**

**Almatis Limited**

Morimura Bldg.  
1-3-1 Toranomom  
Minato-ku, Tokyo 105-8451  
Japan

Phone  
**81 3 3502 2371**

Fax  
**81 3 3502 2375**

**Almatis Headquarters**

Lyoner Straße 9  
60528 Frankfurt/Germany

Phone **49 69 957 341 0**  
Fax **49 69 957 341 13**

[info@almatis.com](mailto:info@almatis.com)  
[www.almatis.com](http://www.almatis.com)

**MSDS 839**  
**MSDS 1273**