



Global Product Data

Almatis SpaceRite[®] S-3 Alumina

Product Description

Almatis SpaceRite S-3 is a special purpose white hydrated alumina. White hydrated alumina is aluminum trihydroxide, $\text{Al}(\text{OH})_3$, that is produced through special processing of aluminous feedstocks and stringent process control systems. The result is hydrated alumina unequalled in purity and whiteness. Although hydrated alumina is a dry powder, when heated above approximately 220°C it decomposes into approximately 35% water and 65% alumina by weight.

Hydrates are nonabrasive, low-density materials that have been used extensively in the coatings industry and other applications where color and the absence of impurities are critical.

SpaceRite aluminas meet FDA specification 175.300. MSDS Section IX, Regulatory Information, states: "For purposes of SARA III reporting, this substance contains no ingredients listed on the Extremely Hazardous, CERCLA, or Section III lists."

SpaceRite S-3 is a fine crystalline, aluminum trihydroxide with uniform particles averaging about one micron in diameter. It is an organic-free, pure white powder produced by a proprietary precipitation process that closely controls particle-size distributions. SpaceRite S-3 can also replace other extenders providing enhanced performance and benefits in coatings and adhesives.

Product Features

- Narrow particle size distribution (1.0 micron median)
- Low oil absorption
- High brightness
- Clean white color
- Low specific gravity
- Nonabrasive
- Excellent dispersion characteristics
- Chemically inert
- UV transparent

Applications

Architectural coatings

- TiO_2 replacement
- Will not reduce gloss
- Excellent gloss retention
- Will not impact color
- Easily dispersed (7+ Hegman)
- Weather resistant
- Inert

High solids/low VOC coatings

- Highly inert
- Low oil absorption and high loading capability
- Used in wide range of colors (no impact on colors)
- Will not reduce gloss
- Excellent gloss retention
- Reduces yellowing in alkyds
- Easily dispersed (7+ Hegman)



Almatris SpaceRite® S-3 Alumina

Applications (continued)

UV coatings

- RMC reduction (formulation extender)
- Improves photoinitiator efficiency
- Will not adversely affect speed or depth of cure (UV transparent)
- Easily dispersed

Organic colored pigments

- Ideal pigment extender, invisible at levels up to 5%
- Inert
- Excellent weatherability
- Low oil absorption
- Will not impact hue
- Easily dispersed (7+ Hegman)

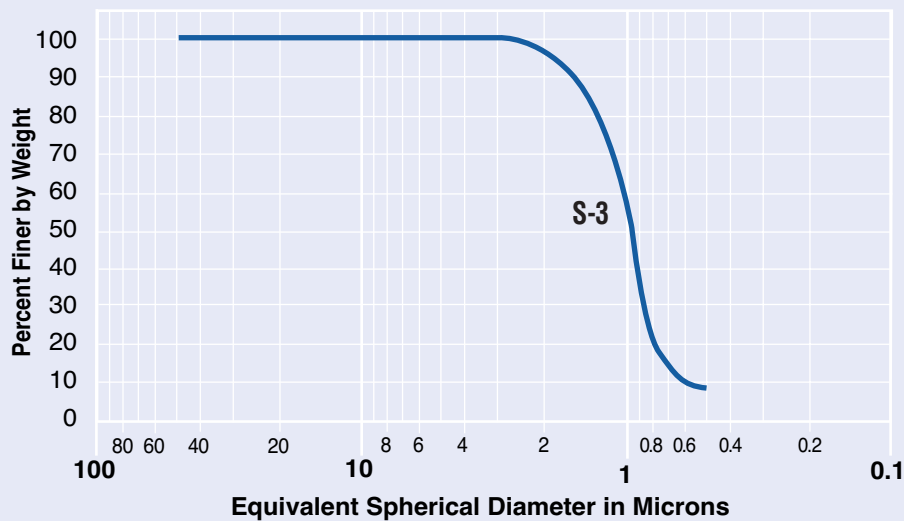
Product	SpaceRite Alumina	
	S-3	Test Methods
Chemical Composition (%)		
Na ₂ O (soluble)	0.04 max	Flame Emission Photometry
Al(OH) ₃	99.5	Difference
Moisture	0.4 max	Microwave
Physical Properties		
Loose bulk density (g/cm ³)	0.30	Modified ASTM B212-89
Packed bulk density (g/cm ³)	0.51	Modified ASTM B527-85
Brightness (% Z)	99+	Z value of the XYZ Tristimulus divided by 1.18103
Refractive index	1.57	
Mohs hardness	2.5 -3.5	
Density (g/cm ³)	2.42	
Pounds per gallon	20.20	
Gallons per pound	0.0495	
Oil absorption (g/100g)	30 -33	
pH (not a buffer)	9.8	ASTM 1208
Color	White	
Particle Size		
d50 (µ)	1.0	Sedigraph 5100

2003 Data - All data are based upon Almatris standard test methods, and all test methods are available upon request. Unless stated otherwise values are typical.



Almatis SpaceRite® S-3 Alumina

Typical Particle Size Analysis by Sedigraph



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 Headquarters

Lyoner Straße 9
60528 Frankfurt/Germany

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

info@almatis.com
www.almatis.com

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

MSDS 839