



Global Product Data

Almatis SpaceRite® S-11 Alumina

Product Description

Almatis SpaceRite S-11 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, it contains a high proportion of chemically combined water, approximately 35 percent 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-11 is a fine crystalline, aluminum trihydroxide with uniform particles averaging 1/4 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-11 can also replace other extenders providing enhanced performance and benefits in coatings and adhesives.

Product Features

- Narrow particle size distribution (.25 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)



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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)

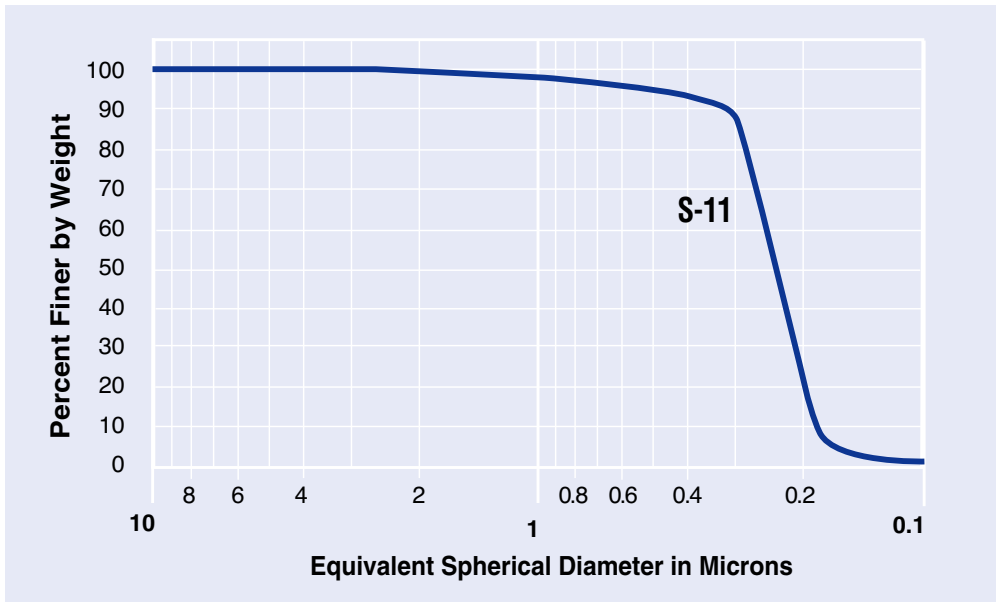
Product	SpaceRite Alumina	
	S-11	Test Methods
Chemical Composition (%)		
Na ₂ O (soluble)	0.02-0.04	Flame Emission Photometry
Al(OH) ₃	99.6 min	Difference
Moisture	0.17-0.50	Microwave
Physical Properties		
Loose bulk density (g/cm ³)	0.36	Modified ASTM B212-89
Packed bulk density (g/cm ³)	0.49	Modified ASTM B527-85
Brightness (% Z)	99.5	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)	24-28	
pH (not a buffer)	9.8	ASTM 1208
Color	White	
Particle Size		
d50 (µ)	0.25-0.31	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.



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Typical Particle Size Analysis by Sedigraph



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