

SpaceRite® S-11

Aluminum Hydroxide (ATH)

DESCRIPTION

SpaceRite® S-11 is a special purpose white hydrated alumina. White hydrated alumina is aluminum trihydroxide, $Al(OH)_3$, that is produced through special processing of aluminous feedstock 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 in 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 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
- Non-abrasive
- 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 with no color impact
- 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

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

Chemical Composition (%)		
	Typical	Test Method
Na ₂ O (soluble)	0.04	Flame Emissions Photometry
Al(OH) ₃	99.6	Difference
Moisture	0.5	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	3	
Density (g/cm ³)	2.42	
Pounds per gallon	20.2	
Gallons per pound	0.0495	
Oil absorption (g/100g)	28	
pH (not a buffer)	9.8	ASTM 1208
Color	White	
Particle Size		
d50 (μ)	0.31	Horiba 5100