

Terra Alba #1 Calcium Sulfate Filler



- Flame retarding filler when processed at room temperature
- High purity
- White in color

Description

Terra Alba #1, calcium sulfate dihydrate, is made by fine grinding and air separating a select, high purity, white gypsum containing about 20% water of crystallization. Depending upon vapor pressure, relative humidity, loading levels, etc., this water of crystallization, or combined water as it is often called, starts being released as the Terra Alba is heated above ~50 °C. By about 180 °C, 75% of the combined water has been released. Water is not totally removed until temperatures exceed 400 °C. In formulations processed at room temperature, Terra Alba #1 can function as a flame retarding filler.

Terra Alba #1 is available in 50 lb. bags or bulk from our plant in Southard, Oklahoma.

Typical Physical Properties

Specific Gravity: 2.32
Mohs Hardness⁽¹⁾: 2-3
Loose Bulk Density (lbs./ft.³): 42
Packed Bulk Density (lbs./ft.³): 62
pH—10% Slurry: 7.3
Refractive Index⁽¹⁾: 1.52
Oil Absorption⁽²⁾: 23-25
Reflectance⁽³⁾: 89.1, -0.9, 2.9
Median Particle Size (microns)⁽⁴⁾: 12.0
Top Particle Size (microns): 150

Typical Chemical Analysis

	%
CaSO ₄ • 2H ₂ O	98.0
CaSO ₄	0.7
CaCO ₃ • MgCO ₃	0.5
CaCO ₃	0.3
Aggregate	0.3
Free Moisture at 45 °C ⁽⁵⁾	0.1
Combined Moisture at 225 °C ⁽⁵⁾	20.3

- (1) Literature value
 (2) ASTM D1483, Gardner Coleman method, gm oil/100 gm filler
 (3) HunterLab D25-PC2 Colorimeter L,a,b values
 (4) Micromeritics Sedigraph 5000 ET Particle Size Analyzer
 (5) Computrac Max 50 Moisture Analyzer

Typical Particle Size Data

Sieve Analysis ⁽¹⁾	%
Through 50 mesh (300 microns)	100.0
Through 100 mesh (150 microns)	99.9
Through 200 mesh (75 microns)	99.8
Through 325 mesh (44 microns)	97.0
Through 425 mesh (32 microns)	91.8

Weight Distribution⁽²⁾

% Smaller Than	%
20 microns	71.8
12 microns (median)	50.0
10 microns	42.0
5 microns	15.0
2 microns	4.0
1 micron	1.0

- (1) Alpine Jet Air Sieve Model 200
 (2) Micromeritics Sedigraph 5000 ET Particle Size Analyzer

Warning

When mixed with water, this material hardens sometimes quickly, and will become very hot. DO NOT attempt to make a cast enclosing any part of the body using this material. Failure to follow these instructions can cause severe burns that may require surgical removal of affected tissue or amputation of limb. Dust can cause eye, skin, nose, throat, or respiratory irritation. Avoid eye contact and inhalation of dust. Wear eye protection. If eye contact occurs, flush thoroughly with water. If dusty, wear a NIOSH/MSHA-approved respirator. Use proper ventilation to reduce dust exposure. Do not ingest. If ingested call physician. Product safety information: USA (800) 507-8899.

KEEP OUT OF REACH OF CHILDREN.

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