



Tech

Technical Data

80 Metcalfe Street  
Buffalo, New York 14206  
716-856-2300/fax 716-856-7115

## CALCIUM SULFATE: (TERRA ALBA)

### GENERAL DESCRIPTION:

USG Terra Alba-F&P Grade, the dihydrate form of calcium sulfate, is made by fine-grinding and air-separating a select, high-purity white gypsum containing about 20% water of crystallization. U.S. Gypsum Calcium Sulfate products serve the food, beverage, and pharmaceutical industrial as industries as an economical source of supplemental calcium. They are used in enriched flour and breads, cereals, baking powder, yeast foods, bread conditioners, canned vegetables and artificially sweetened jellies and preserves.

### APPLICATIONS:

\*\*\* In beer manufacturing, the calcium ion, together with the needed buffering action as provided by proper water correction, promotes proper gelatinization of the starch in the cooker mash, as well as protein degradation and starch conversion. Thus, yield in the main mash is increased. In addition, the color of the wort is improved, and better precipitation and flocculation of undesirable protein complexes are achieved. The result is a paler, smoother-tasting beer with improved stability and shelf life\*\*\*

### Typical Analyses

	USG Terra Alba-F&P Grade	SNOW WHITE Filler-F&P Grade
<b>Total calcium<sup>(1)</sup></b>	23.1%	29.2%
<b>CaO</b>	32.31%	40.92%
<b>SO<sub>3</sub></b>	45.22%	57.46%
<b>CaSO<sub>4</sub></b>	0.39%	97.68%
<b>CaSO<sub>4</sub> • 2H<sub>2</sub>O</b>	97.1%	—
<b>CaCO<sub>3</sub> • MgCO<sub>3</sub></b>	1.52%	0.77%
<b>SiO<sub>2</sub> and insolubles</b>	0.24%	0.13%
<b>Fe<sub>2</sub>O<sub>3</sub> • Al<sub>2</sub>O<sub>3</sub></b>	0.12%	0.12%
<b>Water loss 250 °C</b>	20.31%	0.33%
<b>Brightness index—min.<sup>(2)</sup></b>	84.4	97.1
<b>Oil absorption<sup>(3)</sup></b>	23.5	26.5
<b>Specific gravity</b>	2.32	2.96
<b>Bulk density—pcf</b>		
Loose	42.0	44.0
Compacted	70.0	80.0
<b>Bulking values</b>		
Lbs. per solid gal.	19.38	24.43
Solid gals. per lb.	0.0518	0.0406
<b>Solubility (70 °F) per 100 cc of H<sub>2</sub>O</b>	0.26 grams	0.26 grams
<b>pH-10% slurry</b>	7.3	10.4
<b>Refractive index</b>	1.52	1.56
<b>Through 100 mesh—min.</b>	100%	100%
<b>Through 325 mesh—min.</b>	93%	97%
<b>Avg. particle size—microns</b>	12-15	7-9

<sup>(1)</sup> Conversion of calcium content: Milligrams of calcium per lb. of USG Terra Alba-F&P Grade computed as follows: 1 lb. = 454 grams = 454,000 mg 23% x 454,000 mg = 104,420. • 1 lb. of Terra Alba-F&P Grade = 104,420 mg of calcium. Milligrams of calcium per lb. of SNOW WHITE Filler-F&P Grade computed as follows: 1 lb. = 454,000 mg 29% of 454,000 mg = 131,660 mg. • 1 lb. of Snow White Filler-F&P Grade = 131,660 mg of calcium.

<sup>(2)</sup> Brightness Index was determined on a Beckman DU Spectrophotometer using magnesium oxide as the standard.

<sup>(3)</sup> Oil absorption is the amount of linseed oil in cubic centimeters required to wet 100 grams of filler.

\*\*\*[For more detail about product handling & safety info, please refer to the Material Safety Data Sheet](#)\*\*\*