

ViCALity ALBAFIL®

USP / FCC Precipitated Calcium Carbonate

ViCALity® PCC Products

ViCALity ALBAFIL® Precipitated Calcium Carbonate (PCC) is one of a family of eight low lead calcium carbonates available in a wide variety of sizes and shapes to meet the needs of formulators of foods, drugs, nutritionals and personal care products. Containing less than 500 ppb lead, the ViCALity® PCC's are suitable for many applications that must meet the lead requirements of California Proposition 65.

ViCALity® PCCs meet and exceed the requirements for Calcium Carbonate of the United States Pharmacopeia 24 and of the Food Chemicals Codex, Fourth Edition. All are certified as Kosher. Calcium carbonate is Affirmed GRAS (Generally Recognized As Safe) by the US FDS (21 CFR 184.1191), with no limitations other than good manufacturing practices. This allows the use of calcium carbonate as both a direct and indirect food additive. ViCALity® PCC products are manufactured in the Specialty Minerals plant in Adams, MA under stringent quality assurance procedures and good manufacturing practices.

ViCALity ALBAFIL® PCC

ViCALity ALBAFIL® PCC is a low lead prismatic calcite particle which is 0.7 micron in size. It is the smallest particle sized product in the ViCALity® PCC family, which results in low powder density.

CalEssence® 70 PCC is the ultra-low lead equivalent of ViCALity ALBAFIL® PCC.

Characteristics:

- Smallest particle size
- High surface area
- Moderately high oil absorption
- Low density
- Very Mild abrasive
- Good suspendability
- Less than 500 ppb lead
 - Good for most Proposition 65 uses
- High elemental calcium level
 - ~40% calcium
- High bioavailability – equal to milk calcium
- Economical in use
- No calories, carbohydrates or fats
- Non-dairy, lactose-free

Scanning Electron Micrograph:



magnification: 10,000x

Applications:

ViCALity ALBAFIL® PCC is an excellent choice where the smoothest texture is desired. In most solid foods, the larger Heavy and Extra Heavy grades are small enough to remain undetected in taste, and taste tends to improve as the particle size increases. However, in some product types, especially liquids, ice creams and some soft, chewy forms, the presence of such large particles may be apparent. In those instances, a smaller grade like ViCALity ALBAFIL® PCC is usually better. The high surface area of this grade also makes it an excellent detackifier for natural rubber. Its mild abrasivity suits it for toothpastes for artificial teeth.

Some uses for ViCALity ALBAFIL® PCC are:

- Frozen dairy products
- Liquid meals, diet drinks & infant formulas
- Soy or milk beverages
- Soft chew calcium supplements
- Liquid or soft chew antacids at lower dosages
- Antacid and calcium supplement tablets, but only when a large tablet is desired
- Solid confectionery dosage forms
- Specialty toothpastes for bridgework
- Natural rubber detackification
 - Gloves, condoms, slab, crumb, dip

The use of ViCALity ALBAGLOS® PCC may be preferred in high solids liquid systems with flow problems. ViCALity ALBAGLOS® PCC contains 15% of a larger PCC particle, which improves flow properties over those of ViCALity ALBAFIL® PCC.



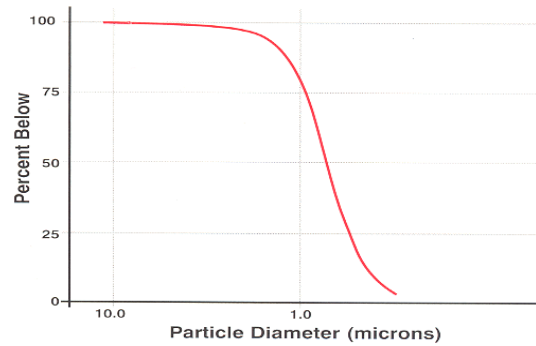
Typical Physical Properties

| | |
|---|-----------|
| Crystal habit | Calcite |
| Particle Shape | Prismatic |
| Particle Size, median, microns | 0.7 |
| Mode, microns | 0.7 |
| Surface Area, meters ² /gram | 7.0 |
| Oil Absorption, grams oil/100 grams | 32 |
| Tapped Density, grams/cc | 0.60 |
| pounds/ft ³ | 37.5 |
| Bulk Density, grams/cc | 0.29 |
| pounds/ft ³ | 18.1 |
| Specific Gravity | 2.71 |
| pH | 9.8 |
| Moisture, % | 0.2 |
| Dry Brightness, Hunter Y, Rd value | 98 |
| Lead, parts per billion | < 500 |
| Solubility in water, pH 7 | Insoluble |
| in acid | Soluble |

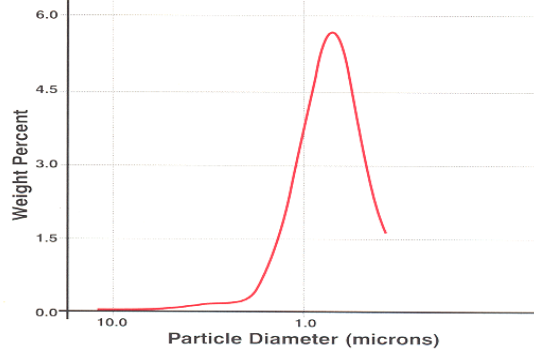
Note:

These are typical values, and should not be used to set specifications.

Cumulative Particle Size Distribution
Total % by weight below each micron size



Particle Size Distribution
% by weight at each micron size



Dispersion and Slurry Viscosity:

ViCALity ALBAFIL[®] PCC is one of the more difficult grades to disperse. Use high shear, with high solids, to achieve the small particle size.

After high shear dispersion for 10 minutes, the Brookfield RVT viscosity of a slurry in water, measured at 20 rpm, is:

| | |
|----------------------|------------|
| 30% solids | 1,700 cps |
| 40% solids | 5,700 cps |
| 50% solids | 14,000 cps |

If problems are encountered in preparing high solids slurries, an appropriate pigment dispersant should be used.

Product Code: 100-0440-3

Specialty Minerals Inc.

35 Highland Avenue
Bethlehem, PA 18017

For order placement:

Customer Service – toll free: 877-684-7627
Fax: 413-743-4527

Packaging:

ViCALity ALBAFIL[®] PCC is packaged in 50 pound, three-ply kraft bags. The standard shipping unit is a 54" x42" 2-way pallet of 50 bags, a total of 2,500 pounds. Pallets include slipsheets and shrink wrap. Semi-bulk packaging, typically in 2,000 pound sacks, is also available. Contact Customer Service or your SMI Representative for details.

FDA Codes:

The Specialty Minerals plant in Adams, MA is registered with the US FDA as a Drug Establishment. The registration number for the plant is 1214544. The National Drug Code (NDC) for ViCALity ALBAFIL[®] PCC is 053044-0440-3 for product supplied in 50 pound bags.

Visit Our Website:

www.mineralstech.com

For Information and Samples:

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