



## ViCALity™ Heavy

### USP / FCC Precipitated Calcium Carbonate

#### ViCALity™ PCC Products:

ViCALity™ Heavy Precipitated Calcium Carbonate (PCC) is one of a family of 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™ PCCs 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 FDA (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™ Heavy PCC:

ViCALity™ Heavy PCC is a low lead calcite which is a 3 micron clustered cubic particle. It has a moderately high oil absorption, similar to that of the smaller ViCALity ALBAFIL™ and ViCALity ALBAGLOS™ PCCs, but has a higher powder density.

CalEssence® 300 PCC is the ultra-low lead equivalent of ViCALity™ Heavy PCC.

#### Characteristics:

- 3 micron particle size
- Higher density
- Moderately high oil absorption
- Moderate abrasive
- 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™ Heavy PCC fits in the middle of the ViCALity™ PCC family in terms of particle size, density and oil absorption. It has a small enough particle size to work well in solid foods where it has been found that, within limits, taste improves as particle size is increased. Highly calcium fortified solid foods with excellent taste can be prepared using ViCALity™ Heavy PCC. It also has a high enough density to reduce the volume occupied by a given amount of calcium, so it can be used in tablets and granulations, although ViCALity™ Ultra Heavy PCC yields the smallest tablets.

Some uses for ViCALity™ Heavy PCC are:

- Cereals
  - In batter, flavor bit, coating or dry blend
- Snack bars, energy bars, diet bars
- Baked goods
  - Breads, crackers, cookies, pancakes, waffles
- Flour and pasta enrichment
- Dry food mixes
- Vitamin and mineral premixes
- Medium sized antacid tablets at lower dosages
- Calcium supplements of a medium tablet size
- Toothpastes for natural teeth

### Typical Physical Properties

Crystal habit	Calcite
Particle Shape	Cubic
Particle Size, median, microns	3.0
mode, microns	3.7
Surface Area, meters <sup>2</sup> /gram	3.3
Oil Absorption, grams oil/100 grams	34
Tapped Density, grams/cc	0.85
pounds/ft <sup>3</sup>	53.1
Bulk Density, grams/cc	0.44
pounds/ft <sup>3</sup>	27.5
Specific Gravity	2.71
pH	9.7
Moisture, %	0.2
Dry Brightness Hunter Y, Rd value	.97
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.

### Dispersion and Slurry Viscosity:

High shear should be applied to a high solids suspension in order to achieve the smallest particle size in a dispersion.

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

30% solids	.90 cps
40% solids	.300 cps
50% solids	1,400 cps

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

**Product Code:** 100-0470-3

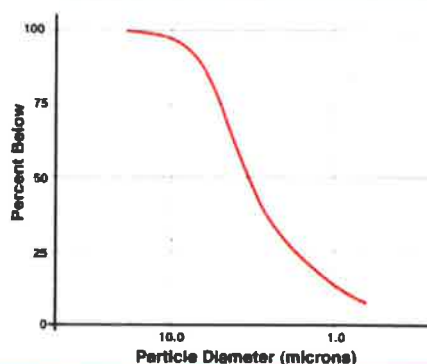
**Specialty Minerals Inc.**  
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Bethlehem, PA 18017

**For order placement:**

Customer Service – toll free: 877-684-7627  
Direct dial: 610-997-8306  
Fax: 610-861-5179

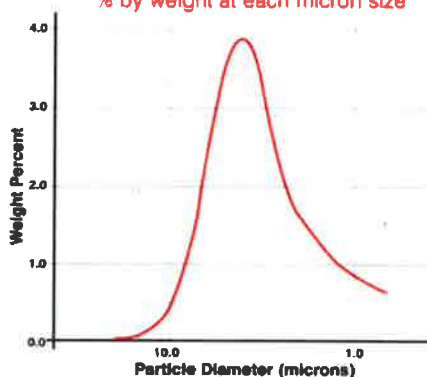
### Cumulative Particle Size Distribution

Total % by weight below each micron size



### Particle Size Distribution

% by weight at each micron size



### Packaging:

VICALity™ Heavy PCC is packaged in 50 pound, three-ply kraft bags. The standard shipping unit is a 48" x 40" 4-way GMA pallet of 50 bags, a total of 2,500 pounds. Pallets include slipsheets and shrinkwrap. Semi-bulk packaging, typically in 2,000 pound sacks, is also available. Contact Inside Sales 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™ Heavy PCC is 053004-0470-3 for product supplied in 50 pound bags.

**Visit Our Website:**

[www.mineralstech.com](http://www.mineralstech.com)

**For Information and Samples:**

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