

VICALity™ Extra Light USP / FCC Precipitated Calcium Carbonate

VICALity™ PCC Products:

VICALity™ Extra Light 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, nutritional 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™ Extra Light PCC:

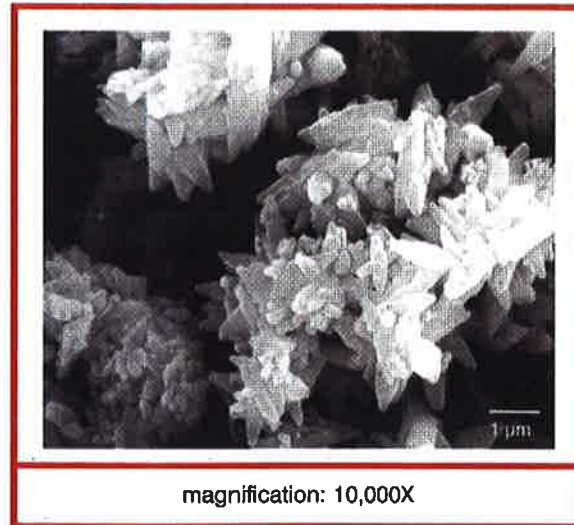
VICALity™ Extra Light PCC is a low lead calcite which is a 1.6 micron scalenohedral particle. This open, clustered needle results in the lowest density VICALity™ PCC grade, with the highest oil absorption.

CalEssence® 160 PCC is the ultra-low lead equivalent of VICALity™ Extra Light PCC.

Characteristics:

- Lowest density
- Highest oil absorption
- Highest surface area
- Excellent dispersibility
- Builds viscosity in liquids and pastes
- 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:



Applications:

Because of its open structure and high surface area, VICALity™ Extra Light PCC is excellent where there are needs for absorbing liquids, oils and the migrating chemicals that make natural rubber tacky. It is also excellent in producing thick masses for extrusion or other shaping, for low density powders, and for readily redispersible powders. Its very high surface area helps maximize reaction rates and uniformity when used as a raw material in synthesis.

Some uses for VICALity™ Extra Light PCC are:

- Soft chew nutritional supplements
- Soft chew antacids at lower dosage levels
- Powdered beverage mixes
 - Soy, milk, chocolate, sport
- Coffee creamers and other redispersible powders
- Clear beverages, when pre-reacted with a food acid
- Detackification of natural rubber
 - Gloves, condoms, slab, crumb, dip
- Flavor absorbent or carrier

Typical Physical Properties

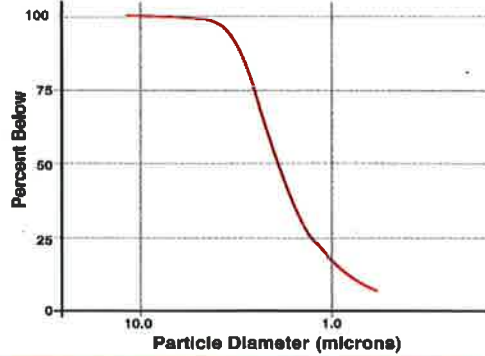
Crystal habit	Calcite
Particle Shape	Scalenohedral
Particle Size, median, microns	1.8
mode, microns	2.0
Surface Area, meters ² /gram	8.5
Oil Absorption, grams oil/100 grams	79
Tapped Density, grams/cc	0.43
pounds/ft ³	26.8
Bulk Density, grams/cc	0.21
pounds/ft ³	13.1
Specific Gravity	2.71
pH	9.8
Moisture, %	0.2
Dry Brightness Hunter Y, Rd value97
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.

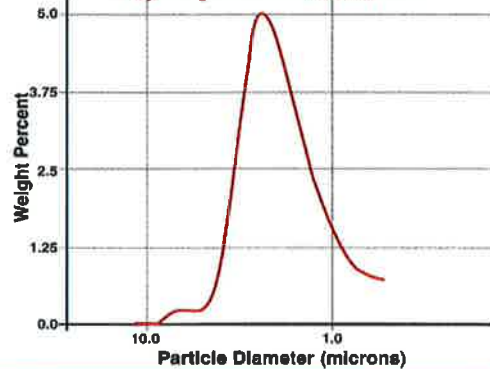
Cumulative Particle Size Distribution

Total % by weight below each micron size



Particle Size Distribution

% by weight at each micron size



Dispersion and Slurry Viscosity:

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% solids440 cps
- 40% solids3,930 cps
- 50% solidspaste

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

Product Code: 100-0510-3

Packaging:

VICALity™ Extra Light PCC is packaged in 50 pound, three-ply kraft bags. The standard shipping unit is a 52" x 42" 2-way 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™ Extra Light PCC is 053004-0510-3 for product supplied in 50 pound bags.

Specialty Minerals Inc.
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Bethlehem, PA 18017

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

Visit Our Website:
www.mineralstech.com

For Information and Samples:
Inside Sales – toll free: 877-229-9653
Direct dial: 610-882-8542
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