

## nextek™ 28

### Microencapsulated Phase Change Material Phase Change: 28°C, 82.4°F

#### DESCRIPTION

Nextek™ is the next level in PCM technology performance. Microtek's patent-pending nextek™ capsule wall technology has all the advantages of Microtek's standard PCM capsules, and provides a means for our customers to achieve Oeko-Tex® Standard 100 Class I certification for formaldehyde. Microtek's nextek™ PCM capsules are mechanically the most robust capsules in the industry, have high thermal stability, disperse easily in solution, and are a drop-in for our standard MPCM capsules requiring no re-formulation.

Microencapsulated phase change materials are very small bi-component particles consisting of a core material, the PCM, and an outer shell or capsule wall. PCMs are low melting materials with melt points in the range of -30°C to 70°C that can absorb and release large amounts of heat. The capsule wall is an inert, stable polymer or plastic.

#### APPLICATIONS

- **Textiles** – to provide thermal regulation in clothing, shoes, tents, sleeping bags, and other textiles.
- **Electronics** - for cooling electrical components in computers, increasing duty cycles in lasers, and helping maintain constant temperatures for scientific instruments and military equipment used in the field.
- **Building Materials** – to increase the energy efficiency of residential and commercial buildings. PCMs are used in combination with solar energy systems and radiant heat flooring, as well as being incorporated in plasters.

#### PROPERTIES

The nextek 28 product exhibits the following general properties:

##### Typical Properties

|                       |  |
|-----------------------|--|
| Appearance            | White to slightly off-white color                            |
| Form                  | Wet cake (75% Solids, 25% Water)                             |
| Capsule composition   | 85-90 wt.% PCM<br>10-15 wt.% polymer shell                   |
| Core material         | Paraffin   |
| Particle size (mean)  | 14-24 micron   |
| Melting Point         | 28°C (82.4°F)  |
| Heat of Fusion        | 180 - 190 J/g  |
| Specific Gravity      | 0.9  |
| Temperature Stability | Extremely stable – less than 1% leakage when heated to 250°C |
| Thermal Cycling       | Multiple   |

#### PACKAGING

This product is generally shipped in 50-gallon fiber drums of 250 pounds net weight (175 pounds nominal dry weight). Sample quantities may be ordered for customers requiring smaller amounts of product.

#### HEALTH AND SAFETY

Please refer to the Safety Data Sheet (SDS) for necessary safety and handling precautions for this product.

