PureTemp® Thermal Energy Storage Materials

PureTemp thermal energy storage materials offer new levels of performance in storing or releasing large quantities of thermal energy at any given temperature. Our proprietary formulations and patented manufacturing processes yield superior quality biobased phase change materials at cost effective prices.

Some key properties:

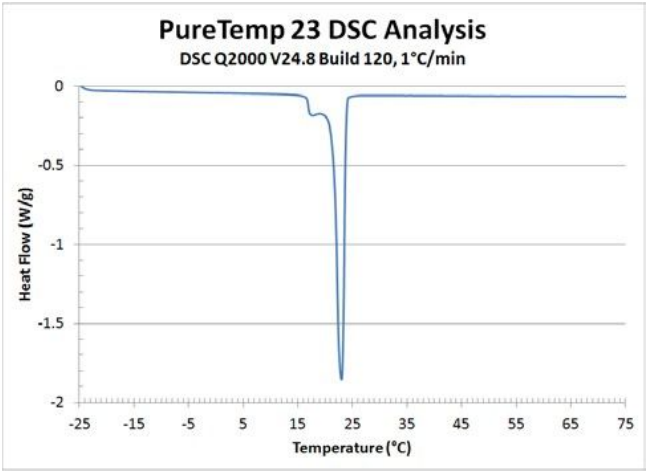
- Thermal energy storage capacities which average 200 J/g
- Over 200 unique, engineered phase change transition temperatures between -40°C and 151°C
- Consistent, repeatable performance over thousands of thermal (melt/solidify) cycles
- 100% renewable and readily biodegradable – produced from agricultural sources, not petroleum

PureTemp 23 Technical Information

PureTemp 23 is a USDA Certified Biobased product

Appearance	Clear liquid, waxy solid
Melting point	23 °C
Heat storage capacity	201 J/g
Thermal conductivity (liquid)	0.15 W/m°C
Thermal conductivity (solid)	0.25 W/m°C
Density (liquid)	0.83 g/ml
Density (solid)	0.91 g/ml
Specific heat (liquid)	1.99 J/g°C
Specific heat (solid)	1.84 J/g°C

Typical physical properties are listed in the table above.



Thermal Cycle Stability

A thermal cycle stability study was performed on PureTemp 23 in which samples underwent a series of freeze and thaw cycles. The two year study completed 10,000 thermal cycles, with performance analyses performed on the samples at various time points. The study for PureTemp 23 found that:

- The average latent heat for PureTemp 23, over the course of 10,000 cycles, passes the product specification.
- PureTemp 23 maintained a peak melting point of 23.4 ± 0.2 °C.

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USDA CERTIFIED BIOBASED PRODUCT
PRODUCT 100%

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