

Magnesium chloride phase change energy storage

Why is magnesium chloride hexahydrate a good material for thermal energy storage?

Magnesium chloride hexahydrate is an attractive material for thermal energy storage due to its high volumetric energy density, relatively high thermal conductivity and reasonable cost.

Is magnesium nitrate hexahydrate a phase change material?

Thermal characteristics of magnesium nitrate hexahydrate and magnesium chloride hexahydrate mixture as a phase change material for effective utilization of urban waste heat Thermal energy storage for solar heating and off-peak air conditioning Critical examination and experimental determination of melting enthalpies and entropies of salt hydrates

Does magnesium chloride hexahydrate melt 373 K?

Magnesium chloride hexahydrate melts ~ 373 K and is one of the perspective PCM candidates for low temperature applications. The material has advantage in its relatively high enthalpy of fusion and heat capacity, high thermal conductivity but it melts slightly incongruently .

What is the purity of magnesium chloride hexahydrate ($\text{MgCl}_2 \cdot 6\text{H}_2\text{O}$)?

Experimental The magnesium chloride hexahydrate, $\text{MgCl}_2 \cdot 6\text{H}_2\text{O}$, was an analytical reagent (Penta, purity 99.0%). The exact amount of hydrate water was determined by chelatometric titration, the average value was 6.15 ± 0.05 moles of water per 1 mol of the substance.

What is the heat capacity of magnesium chloride hexahydrate?

This work describes accurate measurement of the heat capacity of magnesium chloride hexahydrate (sample with specified water content) in temperature range of 298.15-387.15 K as well as other basic thermodynamic functions.

Is salt hydrate a phase change material?

On the other hand, the salt hydrate is one kind of promising phase change materials (PCMs) with \sim two times higher energy density than organic PCMs; however, they have the disadvantage of phase separation during the energy storage process caused by dehydration .



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