

THERMODYNAMIC PROPERTIES OF AQUEOUS SOLUTIONS OF SODIUM THIOSULFATUM

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The analysis of literature [1,2] demonstrates that the choice of these or those materials for accumulation of heat (cold) is carried out rather by an a trial and error method, but not as a result of systematic targeted researches. There are no reliable experimental datas on heats of melting and crystallization, supercoolings, stability of thermal properties at multiply the alternating processes like "melting a – crystallization" etc.

In this work as the differential thermal analysis method thermograms of melting and a crystallization of exemplars in system water – sodium thiosulfatum pentahydrate are received. The "independent" character exo-effects is established. The steady regularity is observed: with increase in concentration of sodium thiosulfatum exo- effects decrease concerning the eutectic temperature and increase concerning temperature a liquidus. For all exemplars the enthalpy of a nonequilibrium crystallization was always 15-20% lower than enthalpy of fusion. The regularity of change of the common enthalpy of a crystallization, to an eutectic comes from a principal component under the U-shaped law.

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1. Mozgovoy A. G. Thermal properties of heat-retaining materials. Crystallohydrates. Reviews on thermal properties of substances., 1990.
 2. Danilin V.N. Materials for accumulation of heat (cold). Physical and chemical analysis of properties of multicomponent systems., 2008.