

论文

苯氧乙酸嘧啶胺盐的低温热容和热力学性质研究

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摘要:

用精密自动绝热量热计测定了苯氧乙酸嘧啶胺盐在81-380 K之间的低温热容. 结果表明, 该化合物在81-328 K之间无相变和热异常现象发生, 在328-354 K之间发生固-液熔化, 其熔化温度、摩尔熔化焓和摩尔熔化熵分别为(349.38±0.03) K, (34.279±10) kJ/mol和(98.13±0.05) J/(K·mol). 根据热力学函数关系式计算出苯氧乙酸嘧啶胺盐在80-325 K之间以标准状态(298.15 K)为基准的热力学函数值.

关键词: 苯氧乙酸嘧啶胺盐 热容 热力学函数 绝热量热法

Heat Capacity and Thermodynamic Properties of Crystalline Pyrimethanil Phenoxyacetate(C₂₀H₂₁N₃O₃)

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Abstract:

Low-temperature heat capacities of Pyrimethanil phenoxyacetate(C₂₀H₂₁N₃O₃) were precisely measured with a high-precision automated adiabatic calorimeter over the temperature range between 81 to 380 K. The compound was observed to melt at(349.38±0.04) K. The molar enthalpy $\Delta_{\text{fus}}H_m$, and entropy of fusion, $\Delta_{\text{fus}}S_m$ of the compound were determined to be (34.279±10) J/mol, (98.13±0.05) J/(mol·K), respectively. The thermodynamic function data relative to the reference temperature (298.15 K) were calculated based on the heat capacities measurements in the temperature range from 80 K to 325 K.

Keywords: Pyrimethanil phenoxyacetate Heat capacity Thermodynamic function Adiabatic calorimetry

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1. 杨伟伟,孔玉霞,邸友莹,史全,谭志诚. 烟酸钠 $\text{Na}(\text{C}_6\text{H}_4\text{NO}_2)(\text{s})$ 的低温热容和热化学[J]. 高等学校化学学报, 2008,29(4): 799-804

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