

Zum System Sr/Mo/O: Phasendiagramm, Synthese und Charakterisierung der ternären Verbindungen

On the System Sr/Mo/O: Phase Diagram, Synthesis and Characterization of Ternary Compounds

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Strontium Molybdate, Phase Diagram, Synthesis, Thermochemical Data, Electric Properties

The phase diagram of the ternary system Sr/Mo/O has been determined at a temperature of 1000°C. Powder samples of the ternary compounds SrMoO₄, Sr₃MoO₆, SrMoO₃, Sr₂MoO₄ and SrMo₅O₈ were prepared by solid state reactions. The thermochemical data of all ternary compounds were determined. A new compound, Sr₃Mo₂O₇, with a layered perovskite structure ($a = 3.967(1)$, $c = 20.588(5)$ Å, I4/mmm) was found. Rietveld analysis based on powder X-ray diffraction data confirms that the compound Sr₂MoO₄ has the K₂NiF₄ structure (I4/mmm) with $a = 3.9176(1)$, $c = 12.8545(4)$ Å.

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