

研究论文

单体/交联剂比例对聚丙烯酰胺凝胶法制备纳米BeO粉体的影响

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摘要: 研究了单体/交联剂比例对聚丙烯酰胺凝胶法制备纳米粉体BeO过程和特征的影响。结果表明: 三维结构的高分子网络结构将盐细化, 使其热分解温度明显降低。当单体和交联剂的质量比为6:1时, 热分解温度下降幅度最大, 约为177℃; 所制备的粉体的平均颗粒尺寸也最小, 约为16 nm, 粒度分布范围较窄且团聚少。当单体和交联剂的质量比偏离6:1时, 热分解温度下降幅度减少, 所制备的粉体的颗粒尺寸增加。

关键词: 纳米BeO 聚丙烯酰胺凝胶法 单体--交联剂比例 纳米粉体

Effect of Ratio of Monomer to Crosslinker on Synthesis of BeO Nanopowders via Polyacrylamide Gel Method

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Abstract: The effects of the ratio of the monomer to crosslinker on the process and property of BeO nanopowders were investigated. The results show that the sulfate salt is disintegrated by the auxiliary three-dimensional (3D) tangled network of polymers, so its thermo-decomposing temperature declines obviously. When the ratio of the monomers and cross linker is 6:1, the decline degree of the thermo-decomposing temperature is the highest which is around 177°C; the average particle size of the powders with narrow particles distribution and less aggregation is the smallest which is about 16 nm. When the ratio deviates from 6:1, the decline degree of the thermo-decomposing temperature becomes smaller, and the average particle size of the powders increases.

Keywords: nanometer BeO polyacrylamide gel method monomers-cross linker ratio nanopowders

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