

Synthesis of Blue and Purple Barium Copper Silicate Pigments ($\text{BaCuSi}_2\text{O}_6$, $\text{BaCuSi}_4\text{O}_{10}$) and its Comparison with the Pigments used in the Ancient Ceramic Glazes

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Abstract : This paper describes the synthesis of barium copper silicate using agglomeration of BaO , CuO , SiO_2 and borax. The synthesized pigments were then investigated by using X-ray diffraction (XRD) and scanning electron microscopy (SEM) techniques. The alkaline oxides, earth alkaline oxides, etc. can reduce the intensity of XRD lines of the samples. In order to confirm the existence of barium copper silicate pigments, the blue and purple glazes were synthesized and their X-ray diffraction lines were then investigated and compared to those for the ancient glazes.

Key Words : *Silicate, Glazes, Agglomeration*