

# Turkish Journal of Chemistry

Turkish Journal

X-Ray Powder Diffraction and IR Study of Calcium Borophosphate  $\text{CaBPO}_5$

of

Chemistry

 [Keywords](#)  
[Authors](#)

A. BAYKAL, G. GÖZEL, M. KIZILYALLI  
Department of Chemistry, Middle East Technical University,  
Ankara-TURKEY

M. TOPRAK  
Royal Institute of Technology,  
Department of Material Science and Engineering,  
Materials Chemistry Division, Stockholm-SWEDEN

R. KNIEP  
Max-Planck-Institut Für Chemische Physik Fester Stoffe  
im VEM-Sachsenwerk Pirnaer Landstr.,  
176 D-01257 Dresden-GERMANY



[chem@tubitak.gov.tr](mailto:chem@tubitak.gov.tr)

[Scientific Journals Home  
Page](#)

**Abstract:** In this study,  $\text{CaBPO}_5$  was synthesized by different solid state reactions than reported before and its X-ray powder diffraction and IR data were reported. In one of these solid state reactions  $\text{BPO}_4$  was used as a phosphating agent. The examination of the X-ray powder diffraction data showed that this compound crystallized in a hexagonal system and the refined unit cell parameters were  $a = 6.684$ ,  $c = 6.616(2)$  Å, with  $Z=3$  as reported before. From the observed reflections, the space group was determined as  $P3_121$ , and its density was found to be 3.15 g/cc. The X-ray powder diffraction and IR data, which were in agreement with the reported crystal structure, are given the first time in this work.

**Key Words:** Ca, Phosphate, Borophosphate,  $\text{CaBPO}_5$ , X-ray Powder Diffraction, and Crystal structure

---

Turk. J. Chem., **24**, (2000), 381-388.

Full text: [pdf](#)

Other articles published in the same issue: [Turk. J. Chem..vol.24.iss.4.](#)