

Structural analysis of Cu - Ce mixed oxides derived from partially substituted hydrotalcites by using X - ray diffraction

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Abstract X – ray diffraction was used like technique to study the changes that appear in the structure of hydrotalcite when magnesium was partially substituted by copper and aluminum was partially substituted by cerium in the layer of the clay matrix. The bulk composition of the studied structures was analyzed by using X – ray fluorescence. The substituted samples preserved the hydrotalcite layered structure but the constrictions of the network appeared as a result of the substitution. After calcination at 1173 K well crystallized mixed oxides containing also copper and cerium formed. The XRD analysis points out that the calcination temperature is important to establish the new structural features of the resulting mixed oxides.

Keywords: Layered double hydroxides, hydrotalcite, XRD, mixed oxides
