

# Synthesis of nano layer copper oxychloride on the surface of zeolite as Zeolite / $\text{Cu}_2(\text{OH})_3\text{Cl}$ nanocomposite.

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**Abstract** : Zeolite / copper oxychloride nanocomposite (zeolite /  $\text{Cu}_2(\text{OH})_3\text{Cl}$  – NCs) successfully was produced by synthesis of copper oxychloride nanoparticles ( $\text{Cu}_2(\text{OH})_3\text{Cl}$  - NPs) on the surface of zeolite using green quick precipitation method.

$\text{CuCl}_2$ , NaCl and NaOH aqueous solutions were applied for the synthesis  $\text{Cu}_2(\text{OH})_3\text{Cl}$  - NPs and the reaction was done in bimedium aqueous suspension phase. The production of zeolite /  $\text{Cu}_2(\text{OH})_3\text{Cl}$  – NCs was performed under the mild condition and using friendly environmental raw materials as green chemistry method.

The products was characterized using powder X-ray diffraction (PXRD), transmission electron microscopy (TEM), scanning electron microscopy (SEM), energy dispersive X-ray fluorescence (EDXF) and Fourier transforms infrared spectroscopy (FT–IR). The results were confirmed the formation of various assay of  $\text{Cu}_2(\text{OH})_3\text{Cl}$ -NPs on the surface of zeolite without significant difference in size of  $\text{Cu}_2(\text{OH})_3\text{Cl}$ -NPs while were used different ratio of  $\text{CuCl}_2$  and NaCl aqueous solutions amount to amount of zeolite.