

# Adsorption capacity of copper of natural and modified radiata bark pine

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The presence of soluble heavy metals in wastewaters, can be toxic for the living beings depending on their concentrations. Several studies have been proposed in the literature about the use of natural and modified barks, in relation with heavy metal adsorption from water. This technique have some comparative advantages in front of neutralization-precipitation traditional technique. This work studies the radiata bark pine behaviour in contact with pure solutions of copper at 20°C. The ionic exchange depends on slurry density, pH value and metal concentration. The maximum adsorption capacity on natural bark takes 90 to 120 minutes (slurry density ? 0.15%(m/v)). The range of saturation values is between 20 to 50 mg/g dry bark. Using activated bark, the range of values is between 45 to 60 mg/g dried bark, with slight dependance of the pH value. In acid media, copper adsorption kinetic is compatible with a first order model, and its specific rate constant increases with the pH value. At sa