

Preliminary Results on the Calcium Hydroxide Nanoparticles for the Heritage Conservation

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Calcium hydroxide particles with submicrometric dimensions (*nanolime*) were recently introduced in the field of cultural heritage conservation of calcareous substrates [¹⁻³]. Nanolimes were synthesized *via* so-called sol-gel citrate method using calcium nitrate as precursor in presence of different concentration of citric acid [⁴]. Tween 80 was used as surfactant agent in the original solution. The changes in the crystalline structures and phase identification were described using X-ray powder diffraction. The treated samples were characterized in relationship to their morphology and surface chemical composition by Scanning Electron Microscopy coupled with Energy Dispersive X-rays spectroscopy (SEM-EDX). X-ray fluorescence measurements (XRF) and Fourier transform infrared spectroscopy (FTIR) methods were used to structurally characterize the nanoparticles. The influence of different contents of citric acid employed (0.5, 1.0, 1.5 and 2.0 times of the concentration of the precursor), on particles dimension was analysed also.

References

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