

Toxicological profile of calcium carbonate nanoparticles for industrial applications

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Description

Calcium carbonate nanoparticles (CaCO₃NPs) derived from CO₂ are promising materials for different industrial applications. It is imperative to understand their toxicological profile in biological systems as the human and environmental exposures to CaCO₃NPs increases with growing production. Here, we analyse the cytotoxicity of CaCO₃NPs synthesised from a CaO slurry on two cell lines, and *in vivo* on zebrafish (*Danio Rerio*). Our results demonstrate the CaCO₃NPs *in vitro* safety as they do not cause cell death or genotoxicity. Moreover, zebrafish treated with CaCO₃NPs develop without any abnormalities, confirming the safety and biocompatibility of this nanomaterial.