

BIO-BASED NANOPARTICLES FOR BROADBAND UV PROTECTION WITH PHOTO-STABILISED UV-FILTERS

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Sunscreen formulations rely on a multitude of compounds to provide effective and safe protection against UV radiation. UV-filters have been strongly linked to the generation of carcinogenic reactive oxygen species upon irradiation by sunlight. Herein, we demonstrate a significant reduction in reactive oxygen species upon irradiation by sunlight by co-localisation of an antioxidant photo-stabiliser with multiple UV-filters into bio-based nanoparticles designed from ethyl cellulose. These nanoparticles display broadband UV-protection and can form transparent and flexible films.

