

Safe and Sustainable Design for Advanced Materials



About the project:

SUNSHINE is an industry-oriented project, where leading research and technology organisations cooperate with SMEs and large industries to develop and implement simple, robust, and costeffective Safe and Sustainable by Design (SSbD) strategies for materials and products incorporating advanced multicomponent nanomaterials.

Our case studies



AVANZARE

The material used is Graphene oxide functionalised with chitosan to develop safer and more sustainable flame retardants additives for use in the automotive sector.

CIAC

The case study's goal is to help improve the mechanical and photocatalytic performance of construction materials based on cement mortars and concrete, using SiO2-ZnO and SiO2-APTES hybrid materials.

ENCAPSUALE

The goal is to increase food safety by designing functional additives to add to the polymer of food packaging to control oxidation and pests, using benign inorganic nanomaterials like essential oils.



The case study develops anti-sticking coatings on aluminium moulds for bakery applications and alternatives to PTFE (Teflon), using core-shell nanoparticles based on a Silicon carbide core and titanium dioxide or Silicon dioxide shell.

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