

## **In vitro and in vivo toxicological studies on graphene-based fabric**

There are several advantages of using nanomaterials, however the widespread application of these materials confer enormous potential for human exposure and environmental release, thus, a better understanding of the toxicological aspects on nanomaterials is essential. Toxicological studies on graphene-based fabric were performed.

Several nanomaterials with different physical-chemical properties resulted in being permeable to skin. The skin in fact, could serve as an important door for the entry of nanoparticles in the human body. Cytotoxicity of graphene-based fabric has been evaluated in the human adult low calcium high temperature (HaCaT) cell line, since this is derived from adult human skin that exhibits normal differentiation capacity. Moreover, in vivo toxicology studies utilizing the nematode *Caenorhabditis elegans* will be discussed.

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