

TECHNOLOGY OFFER

COMPOSITE TEXTILE FIBRES WHICH CAN DETECT CHEMICALS



AN INNOVATIVE OFFER

This technology is about a smart textile material which is able to detect the presence of potentially harmful organic compounds (styrene, toluene, methanol...) in gas or liquid form. Detection occurs by a change of electrical conductivity once the textile in contact with at least one chemical.

This technology is based on the use of Conductive Polymer Composites (CPC), in filament form, suitable to provide a woven textile structure.

CPCs are obtained by a dispersion of conductive particles inside a polymeric non conductive matrix, which will provide enough mechanical properties for a long lasting usage.

POTENTIAL APPLICATION AREAS

 Main application seems to be working protection clothes for firemen, workers in chemical industry, military staff in order to mention the presence of dangerous and toxic chemicals (styrene, methanol, explosives...).

 Other fields could be medical monitoring (hospital mattress, plasters, medical seats...), or sportsmen monitoring (T-shirts, armbands...).

INTELLECTUAL PROPERTY

• European Patent n°2510348, extended to France, Germany, Italy and Spain.

TARGETTED PARTNER

 Industrial company specialized in smart textile and/or protective working clothes.

TECHNOLOGY ADVANTAGES

- With CPCs, one can, by choosing the proper non conductive polymer, fine tune the detection of one chemical specifically. Therefore, by combining various CPCs, it becomes possible to be selective in detecting some targeted chemicals.
- Unlike most existing technologies, this invention allows to integrate these smart fibres in stuffs or clothes

RESEARCHERS INVOLVED

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