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Replacing dirt and toxic with clean and green

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The purpose of this presentation is to discuss and detail advances in VOC compliant solvents. The presentation will outline a variety of new, VOC compliant solvents, their efficacy, how they may perform and where they may be used in paints, coatings, adhesives and cleaning formulae. The presentation will also discuss the development and efficacy of new VOC exempt low toxicity replacement for a variety of glycol ethers and a film forming coalescent and their use in formulation. This presentation will cover: Solvent options available for low VOC formulation; Use of VOC compliant solvents effectively; New VOC solvents to replace glycol ethers and film forming coalescent; and decreasing toxicity in formulation by using a new generation of VOC compliant replacements.

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Electrospinning nanofiber containing disulfiram as anticancer treatment: Preparation, characterization and application

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E lectrospinning is an efficient technique to produce ultrafine polymeric fibers. It has gained a great scientific and industrial interest due to its cost-efficiency, versatility and potential to be utilized in a wide range of applications. We used electrospinning to produce nanofibers from cellulose acetate (CA) and polyethylene oxide (PEO) polymers loaded with different concentrations of disulfiram (DS) for further implementing in anticancer treatment. Various tests were carried out including scanning electron microscopy (SEM), FTIR and thermal gravimetric analysis (TGA) to evaluate the efficiency of the prepared fibers as anticancer material. On the other hand, it revealed a potent apoptotic-dependent anticancer activity against human colon and breast cancer cells with minimal toxicity on human normal cells. Hence, the studied fiber was able to overcome one of the major existing obstacles for using DS as an anticancer drug by decreasing its toxicity against healthy cells. The current approach corroborated that PEO/CA nanofibers loaded by disulfiram could be applied as a promising safe candidate for anticancer treatment.

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