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ECOXTRACT new eco-friendly breakthrough solution for the extraction industry.  
From an idea to an industrial reality

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## PURPOSE OF THE ABSTRACT

The bio-economy plays an important role in our daily life and tends to become spread in all domains of application. Developing biobased products is now anchored in the DNA of many players around the world. Replacing petro-based chemicals is nowadays an objective of many actors of the economy to make our world and life better. Pennakem developed various bio-based products in the past decades that are used in the industry and for various applications. The root of Pennakem is a building block obtained from pentosans converted into added value key starting material, furfural. From here various derivatives have been developed and especially biobased solvents that are now largely employed mainly in the pharma industry. Thanks to this expertise in solvents, Pennakem developed a solution for extraction and especially lipophylic extraction where no efficient biobased solution exists currently. There are eco-friendly processes readily available, like super-critical carbon dioxide extraction, ultra-sounds extraction or other clean technics, but no agro-solvent really showed performance for lipophylic extraction so far. This gap is now closed with ECOXTRACT. Its absence of toxicity supported by various studies performed in the past 24 months allow its use in applications for cosmetic raw material extraction. . ECOXTRACT LIPOCOS is now an Ecocert attested solution for COSMOS raw materials and ingredients and could be used to develop innovative oils. the toxicity profile of ECOXTRACT allows its use in many applications and could efficiently replace petrochemicals like hexane which is the reference for oil extraction. this solution could also come in complement of cold pressing to reach nearly complete defatting of a solid substrate. This breakthrough solution reduces by essence the carbon footprint of various processes and would bring solutions for extraction of substrates low in oil content but with high valuable actives in it. In addition to this application in cosmetics, another industrial segment is targeted and subject to strict regulations, food industry. this industry suffers from a lack of solutions for replacement of petrochemical process aids that are hazardous, like hexane. Current findings coupled with an intensive toxicity study on a specific version of ECOXTRACT, show now that it is possible to innovate in that industry and implement solutions based on bio-based products derived from non-edible agro waste. This represents the power of nature that brings solutions for the future generations.

## FIGURES

FIGURE 1

FIGURE 2

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### KEYWORDS

extraction | eco-friendly | lipids | Ecocert

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### BIBLIOGRAPHY