



# Solid personal care product and production methodology

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## Goal

The group is looking for a collaboration partner and any other type of collaboration. Licensing the patent at this moment is also desired.

## Patent

International Patent Application.  
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## Reference

PCT/EP2022/087163

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## Introduction

The emergence of polymeric materials has brought about significant progress in the scientific community and society, thanks to the fact that they are able to meet an extensive number of functionalities by simply tailoring their properties. In the pharmaceutical, dermatology and cosmetics industries these materials have primarily found application in packaging systems, serving as either primary or secondary packaging. The cosmetics industry alone contributes 120 billion units of plastic packaging with a meagre 14% of these containers being recycled. It is therefore imperative to reduce plastic usage in the products applied on the skin and foster a more sustainable ecosystem. In order to reduce the plastic generated, we have developed carriers that can contain any therapeutic ingredient and are then placed in biodegradable and sustainable containers. The therapeutic carriers are individually packed within primary packaging, both of which are hydro-soluble and therefore part of a zero-waste system.

## Description

A research group with wide experience in biomaterials and tissue regeneration, has developed a sponge-like product with an external envelope. Both are instantly soluble in water and are made from natural waste. The sponge, also known as the carrier, can incorporate any type of active principle (hydrosoluble, liposoluble, etc.).

Besides the revolutionary sustainable concept implemented in the technology, the packaging can also be used to have an added value to the therapeutic carrier, increasing the efficiency of the therapeutic agent. For instance, after humidifying the skin with water, the primary packing can

be applied on the skin to produce an initial effect, such as heat. The therapeutic carrier can then be applied on the skin, allowing the release of an anti-inflammatory drug. Our innovative technology has been validated in cosmetics, but our next step is to focus on the derma-pharmaceutical field.

## Advantages

- Plastic-free and microplastic-free product and packaging
- Zero-waste system
- Very high biodegradability rate: instant solubility
- High versatility: any active ingredient can be incorporated
- Few environmental resources used
- Few ingredients, all natural ingredients: no preservatives are needed
- Low temperature procedures are used so it does not affect the stability of the active principle
- Easier method for increasing the therapeutic effect
- Easy to transport: no water content serves to reduce weight and price
- The product and packaging can have a variety of functions
- Eliminates current tax obligations for single-use plastics

## Current stage of development

There is an ongoing development plan to transfer our product to the market. To do so, we aim to study the industrialisation process of the product and packaging in detail. Moreover, we are performing analysis of volunteers to make sure that final users will validate and buy our technology. Finally, we are looking for funding and we aim to apply for public and private grants.