

## Cosmetotextiles used as a medicine

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### ABSTRACT

In recent years a new approach to skin care is emerging – cosmetotextiles. This approach transforms daily ordinary textile products into cosmetically active products, eliminating the need to actively apply the cosmetic substance. We all use textiles, both during the day – our clothing, and during the night, our bed linens. These textiles are designed mainly to give us protection, warmth, and support. technologies established in the last two decades gave rise to the development of sophisticated technical textiles, such as breathable textiles, sensing textiles, medical textiles, antimicrobial textiles, and more recently, cosmetotextiles. Cosmetotextiles combine textile materials with cosmetic active substances. The cosmetic substance is affixed to the fabric of clothing or bedding so that when in contact with human body and skin the active substance is transferred from the textile onto the skin for cosmetic purposes. Current cosmetotextiles in the market claim to be moisturizing, cellulite reducing, perfumed, body slimming, energizing, rejuvenating, refreshing, improving the firmness and elasticity of skin or reducing the appearance of fine lines and wrinkles.

**Keywords:** Cosmetotextiles, Fabric of clothing, Cosmetics, Micro-encapsulation.

### INTRODUCTION

Cosmetotextile is a technology merging cosmetics and textiles through the process of micro-encapsulation. According to the Bureau de Normalisation<sup>1</sup> Industries Textiles 'Habillement (BNITH), "a cosmetotextile is a textile consumer article containing durably a cosmetic product which is released over time. Cosmetotextiles are impregnated with a finish composed of solid microcapsules, each holding a specific amount of cosmetic substance meant to be released totally and instantly on the human body. Cosmetotextiles currently offered on the market claim to be moisturising, perfumed, cellulite reducing or body slimming. The release pattern of the microcapsules<sup>2</sup> on cosmetotextiles is triggered by an impact, most likely friction or pressure between the body and fabric, breaking the capsules into fragments and liberating the cosmetic properties. Recent studies have started to question the nature of the microcapsules' shells and their toxicity impact or possible allergy reactions on humans. Because shell residues and excessive irregular amounts of substance are left on the skin surface after liberation, micro-encapsulation is more and more preferred for applications that are not in direct contact with human body, while the dermatextile<sup>3</sup> technology, using natural based micro-particles as cosmetic carriers instead of microcapsules, is slowly taking over the skincare field. Nevertheless, micro-encapsulation is still widely used in the smart textiles area and offers optimal results when applied to diffuse a substance in the environment like perfume or to act as a protective barrier against external elements<sup>4</sup>.



"The all day, everyday feel good factor..... Wearable wellness without effort"

The incorporation of cosmetic active ingredients into textiles can be achieved by several evolving<sup>5</sup> technologies at the dope preparation before the fiber extrusion, at the yarn/fiber, fabric or end product stage.

One example is the incorporation of copper oxide micro-particles at the dope stage allowing the production of an array of textile products in which the copper oxide micro-particles are permanently embedded throughout the fabric fibers. As copper plays an important role in skin formation, elasticity and firmness, this technology enabled the production of cosmetotextiles proven to reduce fine lines and wrinkles and to improve skin elasticity in double blind placebo controlled trials. A second example is the incorporation of micro-capsules containing an active substance into textile products. A determined amount of the active cosmetic substance, such as a moisturizer or vitamin C is encapsulated and the microcapsule is attached to the textile fibers. Microencapsulation can be achieved by an array of methods, and the release of the active ingredient from the microcapsules occurs following heat, biodegradation, friction or pressure between the body and fabric during use, breaking the capsules into fragments and liberating the encapsulated active ingredients. A third example is coating of fabrics with cyclodextrin as a carrier for ingredient deliveries to the skin.<sup>5</sup>

The number of companies producing cosmetotextiles and the number of different active ingredients being incorporated into textiles are constantly growing. The technologies used are being optimized to ensure sustainability and optimum cosmetic effects. Cosmetotextiles is a very attractive relatively new field gaining public acceptance by which regular textile products are converted into extraordinary cosmetic products. The idea of using your pillowcase or blouse and by doing so improving the well-being of your skin, not long ago was farfetched, but today it is a reality. Sometimes the simple things work.

### THE RISE OF COSMETOTEXTILES

The rise of cosmetotextiles, a type of active textiles, reminds us that new technologies are rarely truly new. This project began in the 1990s, mainly related to micro-encapsulation. The first patent was filed in 1953 by the National Cash Register Company, today the NRC Corporation, and an American company who pioneered payment systems for distribution. They commercialized carbon paper, a precious tool for accountants. The technical principles were interesting to other sectors and a multitude of patents followed in domains such as medicine, agribusiness, chemistry, electronics, cosmetics, detergents, etc.

The first applications in textiles – Hermès in 1995 and Dim in 1998 – were unsuccessful and left sector professionals' skeptical<sup>6</sup>. The few industrials who were involved in this path realized the need to jointly develop three factors: improving the performance of microcapsules, finding promising applications and building a standard for establishing a vocabulary.



Micro-encapsulation is a collection of techniques that allow for the containment of a substance in a protective casing. This round-form casing is called a microcapsule. It measures between 1 micron and 1 millimetre. The materials that can be contained within include<sup>7</sup> essential oils, active ingredients (molecules with therapeutic properties), liquid crystals, etc. They are either liquid or encased in resin. The film that holds them breaks through mechanical activity and their porosity can be adjusted for a controlled release.

## WORKING WITH ILLUSTRATION OF COSMETOTEXTILES

### 1. Skin penetration and antioxidant effect of cosmeto-textiles with Gallic acid

In this work, the antioxidant gallic acid (GA) has been encapsulated in microspheres prepared with poly-ε-caprolactone (PCL) and incorporated into polyamide (PA) obtaining the cosmeto-textile. The topical application of the cosmeto-textile provides a reservoir effect in the skin delivery of GA. The close contact of the cosmeto-textile, containing microsphere-encapsulated GA (ME-GA), with the skin and their corresponding occlusion, may be the main reasons that explain the crossing of active principle (GA) through the skin barrier, located in the stratum corneum<sup>8</sup>, and its penetration into the different compartments of the skin, epidermis and dermis. An ex vivo assessment was performed to evaluate the antioxidant effect of the ME-GA on the stratum corneum (SC) using the thiobarbituric acid-reactive species (TBARS) test. The test is based on a non-invasive ex vivo methodology that evaluates lipid peroxides formed in the outermost layers of the SC from human volunteers after UV radiation to determine the effectiveness of an antioxidant. In this case, a ME-GA cosmeto-textile or ME-GA formulation were applied to the skin in vivo and lipid peroxidation (LPO) in the horny layer were determined after UV irradiation.

This methodology may be used as a quality control tool to determine ex vivo the percentage of LPO inhibition on human SC for a variety of antioxidants<sup>9</sup> that are topically applied, in this case GA. Results show that LPO formation was inhibited in human SC when GA was applied directly or embedded in the cosmeto-textile, demonstrating the effectiveness of both applications. The percentage of LPO inhibition obtained after both topical applications was approximately 10% for the cosmeto-textile and 41% for the direct application of microspheres containing GA. This methodology could be used to determine the effectiveness<sup>10</sup> of topically applied antioxidants encapsulated in cosmeto-textiles on human SC.

#### 1.1. Materials & Uses

The standard fabric used was plain cotton (bleached desized cotton print, style 400 ISO 105-F02). Liposome were prepared using commercial lipids (phospholipid) Emulmetik 900 and mixed micelles were prepared using the same lipids and the surfactants oramix CG 110. The antioxidant active gallic acid was employed. The encapsulation of antioxidants in liposomes<sup>11</sup> improves their therapeutic potential against oxidant-induced tissue injuries, because liposomes facilitate intracellular delivery<sup>11</sup>. Textiles containing antioxidant might have diffusion characteristics similar those of transdermal release patches use in field of pharmaceuticals, the gallic used as anti-inflammatory.

## LYTEES- ALL SHAPE IS NOT EQUAL

Lytess is a company famous for its shapewear products and it is market for years now. Now you must be thinking what shapewears<sup>14</sup> are let me tell you, they are special kind of undergarments that can make you look thinner than you actual body shape.

Lytess is famous especially for its leggings, the leggings they make make them what they are and it is the leggings that have gained them fame and name them have in the market today. Lytess leggings are famous and they are very comfortable to wear and they continuously work on his, thighs and buttocks. Lytess leggings can be weared and home also and you can also wear them while going to office. You can also wear them throughout the day, they don't sweat. They help you to get in figure and it also makes the skin of legs and upper portions of legs smoother<sup>15</sup>.

### lytess slimming leggings

These seam free legging are designed to comfort to the curves of the body whilst providing maximum<sup>16</sup> comfort and support. They have a combination of a second skin fabric and slimming cosmetics the mixture of caffeine (known for its ability to mobilize and reduce fats) and Shea butter (contains essential fatty acids and vitamins, protects and nourishes the epidermis).

Which they say will lead to the result of thinner hips and thighs and moisturized skin within 18 days. For best results they recommend you wear the product for 8 hours a day, 6 days a week, over a period of 21 days and under these guidelines their independently certified clinical test shown losses of up to - 5.5cm from the hips and -3.1cm from the thighs after the 21 day treatment period.

### LYTESS SLIMMING LEGGINGS REVIEW OF A CUSTOMER

The Lytess Slimming<sup>17</sup> range is clinically proven to substantially reduce the hips, thighs and moisturise the skin in 18 days. 77% of 20 trial subjects experienced significant centimeter loss up to 3.1cm on the thighs and 54.5% experienced loss of up to 5.1cm on the hips.

You have to do is wear one of three versatile ingredients caffeine & Shea Butter for 8 hours a day over 18 consecutive is released every day, stimulating the moisturises and softens the skin leaving it a short. The garments are versatile and can be worn your outfit. They can even be worn in bed so you can clinically

My Measurements:

Before

Hips -35 inches

Thighs-22 inches

After;

Hips 33 and half inches

Thighs 22 inches

Here is what I thought of them:

I got sent the size s/m which is size 8-14 to review and being a size 10-12 these just fit nice. I took my measurements before I started putting on the leggings straight away. I was really interested in finding out about the claims of this product.

When I put the the leggings on, I got a bit panicky at first because they felt very tight, I thought I wouldn't be-able to wear them for long but after a few minutes I realized that they give and mould to your legs leaving you able to move freely.

After wearing these legging for a few days I noticed how smooth my legs were feeling. Just by wearing<sup>18</sup> the legging my legs feel and look more toned. I really enjoy wearing them, giving me a chance to get out of jeans and into some dresses.

I haven't lost any cm on my thighs but I have lost 4 cm from my hips.I am obviously very pleased with this!! I have not done as much exercise the last few weeks as normal, yet I have still eaten the same. Not sure if I can fully link the hip loss just down to the leggings but it is certainly an interesting result. It does give food for thought, I will monitor the measurements closely over the coming.My underlying thoughts of the leggings are how nice and smooth my legs feel when wearing them. I would praise them highly for this alone!!

### 3. CONTROLLED RELEASE OF ACTIVE AGENT FROM MICROCAPSULE EMBEDDED IN TEXTILES

Cosmetotextiles are wearable skin care systems that mix cosmetics and textiles through microencapsulation. These clothing items have cosmetic ingredients built into the very fibers of the fabric. As the wearer goes about daily activities<sup>20</sup>, the solid micro-capsules in the textile material are slowly released, providing a benefit to the body and skin.

Cosmetotextiles are designed to be worn over a large part o the body for most of the day. As the body bumps against the fabric, the capsules break, and the cosmetic properties are released into the skin. The wearer is then freed from the need to take a pill or apply a lotion to benefit from the cosmetic properties of the material.While any cosmetic that can be micro-encapsulated can be incorporated into cosmetotextile technology.

#### APPLICATIONS

Certain applications seem to be more usable in this way. For example, moisturizing materials, even something as simple as moisturizing socks for dry, cracked heels, are popular. Other cosmetotextiles commonly found on the market include perfumed fabric, cellulite reducing cosmetics or body slimming materials.

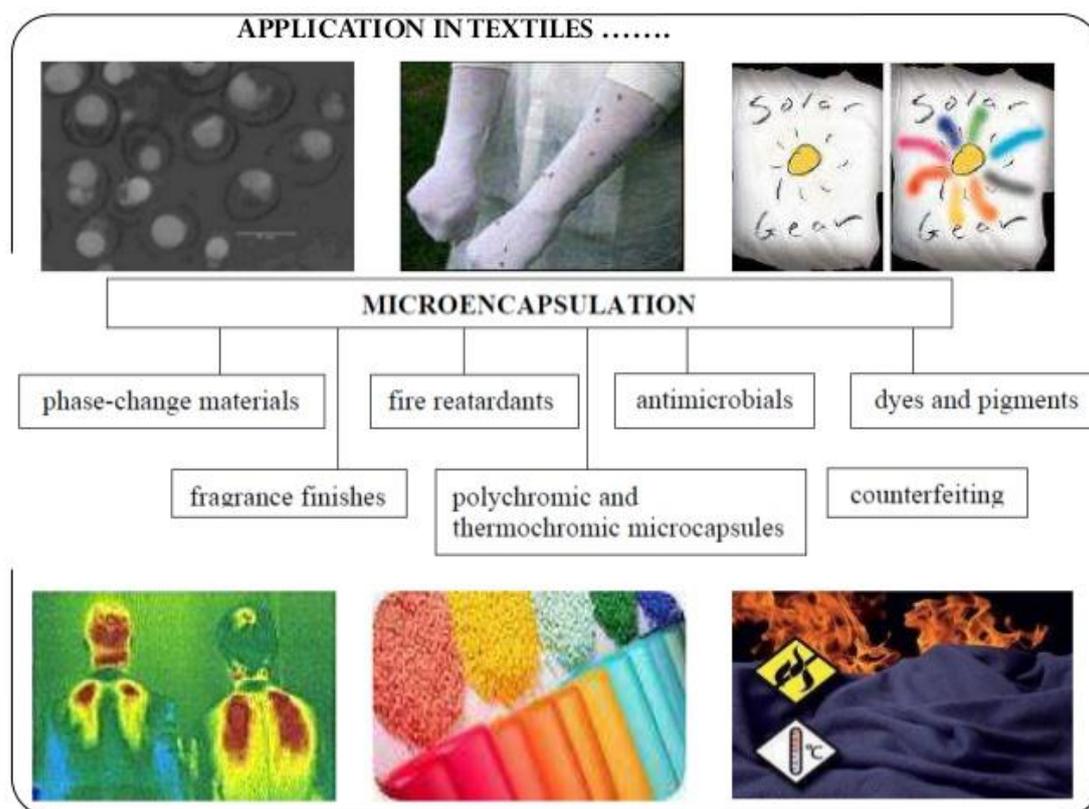
As a company that specializes in encapsulation and microencapsulation services, Vantage can help with cosmetotextile needs. Our deep understanding of the technologies and applications of these procedures allows us to provide solutions for companies interested in jumping on this new, but growing, trend.

#### 3.1. FRAGRANCE

Interfacial polymerization was used to produce polyurethane/urea (PUU) microcapsules with a perfume for industrial application on textile substrate having in view man suits production<sup>22</sup>.

The extent of reaction of PUU microcapsules formation was followed by Fourier transform infrared spectroscopy. Size distribution and morphology of the produced microcapsules were studied using particle size analysis, optical microscopy and scanning electron microscopy. Impregnation on textile substrates was tested both at laboratory level and at industrial scale. The fragrance release from textile substrates<sup>23</sup> was measured with headspace chromatography. The content of microcapsules was released with light abrasion to simulate day-to-day wear, and fabrics impregnated at laboratory scale have survived to 9000 abrasion cycles. Microcapsules have continued to release aroma up to five dry cleaning washing cycles.

### MICROCAPSULATION PROCESS



### 3.2. Phase-change materials

Microencapsulation technology was utilised in the early 1980s by the US National Aeronautics and Space Administration (NASA) with the aim of managing the thermal<sup>24</sup> barrier properties of garments, in particular for use in space suits. They encapsulated phase-change materials (PCMs) (e.g. nonadecane) with the hope of reducing the impact of extreme variations in temperature encountered by astronauts during their missions in space. Ultimately the technology was not taken up within the space programme.

### 3.3 Polychromic and thermochromic microcapsules

Colour-changing technology has been around for a number of years, generally applied to novelty applications such as stress testers, forehead thermometers<sup>25</sup> and battery testers. New applications are now beginning to be seen in textiles, such as product labelling, and medical and security applications. In addition there is continued interest in novelty textiles for purposes such as swimwear and T-shirts.

### 4. AROMA FINISHING OF COTTON FABRICS BY MICROENCAPSULATION

Functional textiles are being developed in order to provide fabrics with new properties and added value. They can be obtained either by using new chemical fibers or by incorporating functional agents to conventional fabrics. Microencapsulation is an effective method to protect these functional agents from reactions with moisture, light, and oxygen. If a fabric is treated with microencapsulated functional

agents, higher durability of functionality is expected. This article reports the development and testing of two types of microcapsules containing essential oils for application in cotton fabrics. Microcapsules were obtained by complex coacervation<sup>26</sup> using gelatin and arabic gum or by encapsulation in yeast cells in order to increase the durability of fragrances in textiles. Microcapsule characterization, such as particle size and morphology, was carried out for different oils to polymer ratios and hardening agents to polymer ratios. Padding and coating were tested as application methods. The morphology, durability of the fragrance, and laundering<sup>27</sup> properties of the treated fabrics were investigated. The use of an electronic nose to measure the fragrance release from microcapsules was also evaluated. Gelatin—arabic gum microcapsules increased the durability of the fragrance on the treated fabrics and withstood one wash cycle. Fabrics treated with yeast cell microcapsules presented low fragrance intensity before washing. The fragrance was not detectable after laundering, even though the microcapsules<sup>28</sup> could still be observed on the fabric.

#### APPLICATION OF AROMA FINISHING



A sleep mask containing citronellal oil. It is very useful oil especially when symptoms are due to nervous system.



A pillow containing aroma therapy to elicit a variety of specific feeling and emotion such as relaxation, happiness, and well-being.

#### 5. IN COSMETICS IN FOCUS- DRESS UP IN CREAM

Both fashion and cosmetics are used to shape our appearance. They contribute to the way in which we express our identity and persona to the rest of the world. Conversely, the words used to describe cosmetic textures are often borrowed from the textile register; creams and foundations<sup>29</sup> evoke delicate cashmere, light silks or soft velvets. Ultimately both textiles and cosmetics form one category – that of a second skin. And the concept of cosmeto-textiles has gone one step further, now offering garments with a personal care function or cosmetic textures that behave like textiles. The Cognis Group is leading this innovation with its Skintex functional textile. Made from natural ingredients such as vitamin E, passion fruit and olive oil derivatives, Skintex is incorporated into clothes to deliver a moisturising, cooling or energising effect to the wearer. But technically what is interesting is that the same polymers<sup>30</sup> or colour technologies can be used to develop textiles and cosmetic textures. Natural fibres used to create clothes are increasingly being put to innovative uses in cosmetics. Keratin for example, derived from cashmere, is also popular as a texturing agent in a number of cosmetics. And the concept of cosmeto-textiles has gone one step further, now offering garments with a personal care function or cosmetic textures that behave like textiles. The Cognis Group is leading this innovation with its Skintex functional textile. Made from natural ingredients such as vitamin E, passion fruit and olive oil derivatives, Skintex is incorporated into clothes to deliver a moisturising, cooling or energising effect to the wearer.

##### 5. 1. SKINTEX-INSECT REPELLENT

SKINTEX insect repellent contains highly effective and well proven ingredients that have been successfully used as mosquito repellent for decades. The slightest change in the weather and they are there in swarms<sup>40</sup>: mosquitoes and midges. Scented candles, creams and electric zappers are barely enough to deter them from eating us alive. And if you like being in the great outdoors, then you have little choice but to keep reapplying cream from tip to toe – or be bitten. Until SKINTEX fabrics containing SKINTEX insect repellent mean you don't have to worry about a cream wearing off. In fact,

everywhere that your body is covered by SKINTEX fabric you are protected against the annoying little pests. SKINTEX protection can be applied to a variety of materials and is effective against mosquitoes and more.

**Benefits:**

- Protection against mosquitoes built into your clothes
- Safe and well tested repellents
- Contains well-known effective ingredients

**5.2. SKINTEX-COOLING EFFECT**

Clubbing, shopping and exercising – activities that get you very hot, but this is when you want to look your freshest. These are exactly the times when you need the cooling effects of SKINTEX active care. High-tech microcapsules are built directly into the fabric and release their active care ingredients – leaving you feeling cool, calm and relaxed. The fresh SKINTEX effect is ideal for fashion which is worn close to the skin. SKINTEX active care ingredients are made from natural based materials. Indeed, all the ingredients used have a well established reputation for good skincare. So if you want to be a trendsetter<sup>50</sup> – or if you just prize function as highly as form – SKINTEX provides great added value.

**Benefits:**

- Natural source ingredients: Myrtilol, Menthol
- Provides the skin with high-grade cosmetic active ingredients



### 5. 3. SKINTEX-MOISTURIZING EFFECT

Let's face it: it's not just women that have tender and sensitive skin. Men do too. And now there's a way for everyone to moisturize but without anyone seeing them do it. Clothes equipped with SKINTEX deliver a valuable skincare regime all day long. So all you have to do is get dressed and feel comfortable. The moisturizer comes from your clothes, rather than soaking into them. SKINTEX active care treated socks, underwear and shirts all become active clothes playing an important role in your skincare needs. The principle is simple: Microcapsules are filled with high-grade care ingredients which are released gradually onto the skin, ensuring a supply over many hours. In fact, you'll feel the effect within a short period of time. The appearance of extremely dry skin may be noticeably improved. And because its effects can last over several washes, it's a helpful solution for wellbeing and moisturized<sup>60</sup> skin. SKINTEX is good for all kinds of skin.

#### Benefits:

- Natural source ingredients: Vitamin E, Monoi de Tahiti, Squalane, Passion fruit oil.
- Provides the skin with high-grade cosmetic ingredients.
- Proven efficacy in clinical test.



### 5. 4. SKINTEX ANTI-HEAVY-LEGS EFFECT

How do you feel after a long, stressful day when you haven't had a chance to rest your legs? Have you ever suffered from tired and heavy legs? For anyone who is all too familiar with such discomfort, Cognis offers a convenient, refreshing and stimulating solution: legwear treated with SKINTEX. Just wearing this legwear causes natural-source, active ingredients to be gradually released from microcapsules, keeping your legs from feeling tired. It will revitalize and refresh your legs, while giving you a feeling of wellbeing. SKINTEX is based on essential oils derived from vegetable sources like plants and fruits.

**Benefits:**

- Natural-source ingredients: Lemon, Grapefruit, Peppermint Oil, Thyme
- Provide your legs with high-grade cosmetic active ingredients.

**6. SKINTEX AROMATHERAPY**

After a hard week, you need to replenish your energy levels. However, that's easier said than done. One thing that can help is the revitalizing scent of SKINTEX. SKINTEX microcapsules are filled with high-grade ingredients that are anchored into the fabric and slowly release a revitalizing aroma – bringing new verve into your life. All of these ingredients are based on organic plants and fruits. Even after a number of washes SKINTEX microcapsules remain active.

**Benefits:**

- Natural source ingredients: Orange, Mint, Lemon, Rosemary,
- Ginger, Clary oils
- Lifts body and soul
- Reawakens all senses.



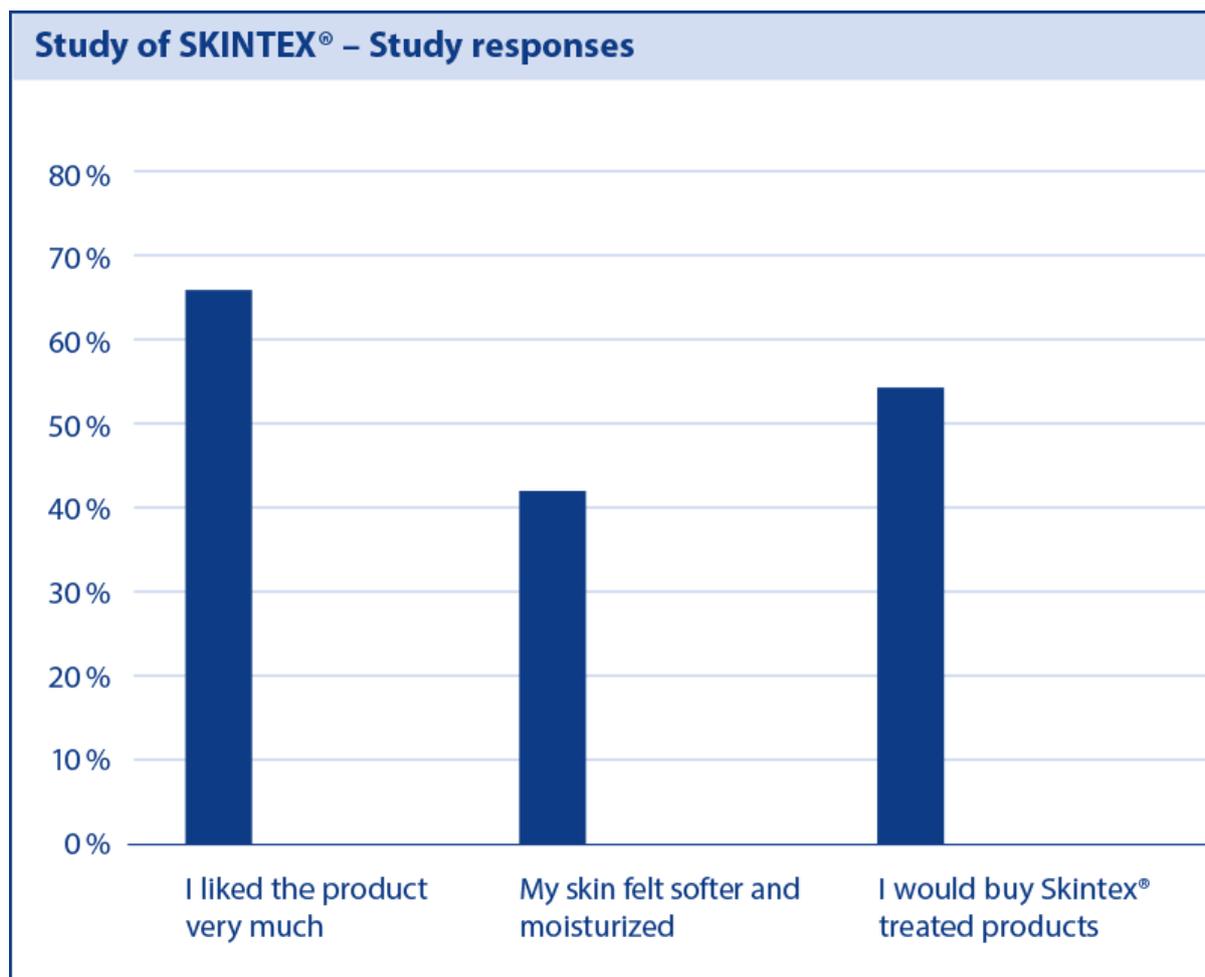
### **SKINTEX CLOTHES THAT TREAT YOU RIGHT**

How does it work? The principle is simple: The SKINTEX microcapsules are embedded into the fabric. These are led with high-grade ingredients and, over time, they are slowly released onto your skin.

The contents of the microcapsules include well-known skincare ingredients and aromatic fragrances. This means that as long as you are wearing your clothes, your skin will be looked after and you'll feel good too. Every fabric, be it a natural or synthetic material, can be with SKINTEX®. What's more, this can be achieved through existing manufacturing processes – so there is no need to buy additional machines to incorporate SKINTEX into your fabrics.

### **SKINTEX®PROVEN EFFECTIVENESS**

A study conducted in Hamburg showed that after only two days of using SKINTEX, the appearance of the skin is visibly improved. Twelve testers wore SKINTEX socks for eight hours and two days. Each time they wore a SKINTEX treated sock on one leg and an untreated one on the other. The research found that 67% of the test subjects loved the product and 56% would buy it immediately.



### **COSMETOTEXTILES: WEARABLE SKINCARE**

It's chemistry, not magic. But an increasing number of products include these substances. The scientific literature contains no formal classification of cosmetotextiles, although there is some consensus<sup>61</sup> that the most exploited market segment is that of slimming products that take the classic corset a step further, namely, tights and leggings of all kinds and, more recently, lingerie and jeans. Algae, retinol and caffeine extracts are generally added to these textiles to fight cellulite and moisturize the skin.

Next most popular are aromatherapeutic garments, whose textiles are impregnated with essential oils with relaxing or invigorating properties.



Next comes anti-solar clothing, with a sun protection factor (SPF) greater than 35. Anti-UV lycra clothing has been sold in the surfer sector for several years. Now, sun-protective items, such as shirts, skirts and trousers, are becoming popular for other outdoor activities.

Finally, anti-ageing cosmetotextiles are beginning to appear in the market. One example is anti-ageing masks, which are designed to enable ingredients like resveratrol – an anti-oxidant molecule that the skin absorbs with difficulty – to act over long periods. Another matter entirely is that its action might have other consequences for the epidermis.

### Safety controls

In 2004, the EU decided to create a group to study effectiveness, toxicity and durability validation methods for textiles with cosmetic properties. In 2009, the European Committee for Standardization approved a technical report which stated that the ingredients included in cosmetotextiles had to be “as safe as if applied by conventional<sup>62</sup> means.”

Optimization of the amount of ingredients to use and longer-term effects continue to be undecided issues in the sector. Even so, the future of wearable cosmetics is undoubtedly promising.

### DISCUSSION

Cosmetotextiles represent a significant innovation for both the cosmetics industry and the textile industry. For the textile industry, cosmetotextiles provide a way of increasing added value while satisfying consumers<sup>63</sup> growing demand for beauty and anti-ageing products.

Demand for beauty products is buoyant -- especially in countries with ageing populations -- as consumers become increasingly interested in fitness, health and appearance.

Demand is being fuelled in particular by the desire of consumers to combine well-being, or "wellness", with clothing attributes which are now taken for granted -- such as breathability, comfort and aesthetics. In fact, wearable skincare has been named by a UK-based market research firm in 2010 as one of ten trends to watch in packaged goods.

The market for cosmetotextiles has greatly expanded in recent years to encompass a wide range of garments which are designed to appeal to health conscious consumers. Manufacturers claim that their products can reduce cellulite, moisturise the skin, cool the body or even deliver vitamins.

Also, while manufacturers faced a number of technological challenges in the early years, these have been largely overcome thanks to advances in microencapsulation.

Such advances have opened up new opportunities for enhancing the performance of cosmetotextiles. In turn, performance enhancements have enabled manufacturers to offer clothing items which are perceived by consumers to have higher added value, and therefore such items often command premium prices. Admittedly, some consumers remain sceptical about the concept of combining cosmetics and textiles, and many believe that the concept is merely a gimmick. It will be some time, therefore, before these consumers are convinced<sup>64</sup> of the effectiveness of cosmetotextile products.

On the other hand, plug-in air fresheners and aromatherapy products are growing in popularity, and sales of cosmetotextiles stand to benefit from this trend. Furthermore, belief in the concept of cosmetotextiles is likely to be strengthened by the progressive involvement of high profile companies in the cosmetics industry as well as those in apparel -- including major sportswear suppliers such as Nike and Adidas.

### BRANDS OF COSMETOTEXTILE PRODUCTS

S.no.	Brands/Company	Cosmetic	Textile
1.	Quiosphere	Microcapsulated cosmetics	Woven or knitted fabrics
2.	Lipotec	Anticeullite slimming agent	Terycott
3.	Lytess	Caffeine, shea butter	Mixed cotton
4.	Sunislove	Antiageing	Cotton
5.	Skineez	Slimming agent	Mixed cotton

### CONCLUSION

The growing field of cosmetotextiles, which represents a fast emerging market for both the cosmetics industry and the textile industry. The report provides a wealth of information on the development of the industry, the benefits of the products, new methods of application, the market for cosmetotextile products, consumer scepticism<sup>65</sup> and the future opportunities which are presented by this market



Currently, cosmetotextiles represent a small niche market, but the development of new applications will provide new market opportunities for textile and apparel firms. This report is vital for those who want to add value to their products by providing additional functions and benefits -- and for those who want to stay informed on growth sectors which have the potential to change the industry.

### **COSMETOTEXTILES –THE REALLY BIG TREND FOR FUTURE ....!!!!**

Holistic health is a major trend. It is estimated that the market for cosmetotextiles – the integration of cosmetics into textiles, generally on the basis of microcapsules – will be worth 500 million euro in 2013. Peclers, the Paris trend agency, is presenting this inspiring new of “wellbeing”. The Swiss style expert, Jeroen van Rooijen, is prophesizing the dawn of a new era, away from tradition and retro and geared towards individual functionality, practical wellbeing and passionate authenticity. All these signs and predictions point towards major change and new beginnings. New beginnings that Schoeller has no intention of missing.

Textiles and their functions are constantly evolving. Intelligent, highly-developed technologies such as energear, the energy retrieval system from Schoeller that can equip textiles with various applications with capabilities never seen before. The integration of cosmetics or medication (under medical supervision) into textiles offers revolutionary possibilities.

The increased wellbeing in combination with additional functionality makes cosmetotextiles “active” promoters of our everyday comfort. Schoeller's first groundbreaking response to this trend bears the name iLoad and has already been distinguished with the coveted Swiss Technology. Is a textile carrier material that can be individually loaded and regenerated with beneficial or therapeutic substances. “The cornerstone has been laid for this project; now the task is to examine and further develop possible application technologies,” explains Hans-Jürgen Hübner, CEO of Schoeller Medical AG. To this end, Schoeller is taking a highly scientific approach of a kind unusual among textile companies and has purchased a laboratory with high quality research and analysis equipment, facilities for chemical synthesis.

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