

A New Natural and Multifunctional Anti-Dandruff Agent for Modern Hair Care

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Abstract

The demand for natural ingredients continues to increase. Being a challenge for raw material suppliers, it is a consequence of the market trends in major cosmetic markets worldwide. Consumers are confronted with information triggering scepticism and fears regarding the impact of chemicals on human health as well as on the environment. Recent years have also shown an impressive growth of natural cosmetics and natural ingredients. More and more natural actives are used in cosmetics, turning consumer products greener.

A segment still relatively untouched by this development is the hair care market. While in skin care products consumers nowadays do not have to sacrifice quality when using natural cosmetics, in hair care it is still difficult to find natural products that meet the consumers' expectations. What makes it so difficult to formulate high performing natural hair care products is obviously the self-imposed limitation in the choice of ingredients that is dictated by most natural cosmetics labels. Following the philosophy that only 100% naturally sourced ingredients are allowed and many chemical modifications prohibited, there are many classical hair care ingredients like polyethoxylated surfactants and quaternised conditioning agents, as well as, petrochemically derived active ingredients that are not allowed for natural cosmetics. However, it is not only the market for natural cosmetics that is in need of natural innovations, an increasing number of conventional brands are also using the natural claims that convey a positive image. Thus, the replacement of many classical and powerful ingredients like parabens, triclosan, silicones or polyethoxylated surfactants is no longer found in niche products only. Big brands and multinational companies are looking for more natural ingredients for their marketing but without compromising product quality and safety.

One such ingredient has been developed in our laboratories in the past. Analysing the market for anti-dandruff products, it becomes obvious that the field is dominated by a few

chemical actives such as Zn-Pyrithione, Piroctone Olamine or Selenium Disulphide. All these ingredients have in common the fact that they have a long record of use in cosmetics – and that they are perceived as 'chemicals' by the consumers and cannot be used in natural concepts. This gap triggered research in our laboratories several years ago, starting the search for a naturally derived anti-dandruff active that should not be inferior in efficacy. Intensive studies have led to the optimisation of a class of ingredients well known for certain antimicrobial activity with good detergent properties. This dual activity distinguishes the Acyl Lactylates presented in this paper from commonly found chemical anti-dandruff agents. The newly launched Dermosoft decalact (INCI: Sodium Caproyl/Lauryl Lactyl Lactate) shows excellent antimicrobial properties and, at the same time, outstanding foaming and foam stabilising properties. This together with a high degree of substantivity as shown in a clinical study presented in this paper, makes Dermosoft decalact a very interesting and cost-effective natural anti-dandruff active.

Anti-Microbial Activity Against *Malassezia Furfur*

It is well known amongst experts that the yeast *Malassezia furfur* is among the main factors for the development of dandruff. Therefore, besides removal of loose corneocytes and sebum control, the primary target for anti-dandruff products is the control of *Malassezia furfur*. There are a number of petrochemically derived antimicrobials that is used in anti-dandruff shampoos. During recent years, following a general tendency for milder ingredients, there has been an increased use of a newer ingredient, Piroctone Olamine, first used in 1979. Nevertheless, with Piroctone Olamine being of petrochemical origin and relatively expensive, there is a continuing demand for a natural active, as effective and, if possible, more economic than Piroctone Olamine. Further benefits of the alternative material should be ease of use, better solubility and the possibility of formulating transparent anti-dandruff shampoos. Furthermore it should be the goal for every formulator to adjust the pH of a product to the