

## SPHINGOKINE® NP: The multilayer skin activator

Various types of skin aging like e.g. chronological aging are known. All types of aging have in common that they lead to changes in face contours. Effects like sagging and loose skin are obvious signs of the aging process.

To reduce the gravitational signs of aging Evonik launches SPHINGOKINE® NP at the occasion of In-Cosmetics 2012. This latest active is based on Evonik's sphingolipid technology.

The unique short-chain ceramide SPHINGOKINE® NP was found to stimulate the cross-talk between cells throughout the skin. By this it provides multilayer activity improving the state of the various skin layers.

Due to deep penetration of SPHINGOKINE® NP, the molecule can reach all different skin layers from the epidermis to the dermis and even the subcutaneous tissue.

Various *in vitro* studies have shown that SPHINGOKINE® NP functions in the epidermis as signaling molecule for keratinocyte differentiation. This leads to strengthening, densifying and smoothing effects of the stratum corneum, the protection barrier of the human skin. In addition, factors that stimulate dermal cells (fibroblasts) are induced by SPHINGOKINE® NP, leading to improved communication between keratinocytes and fibroblasts and dermal matrix stimulation by keratinocyte-derived signals. In the dermal parts of the human skin, SPHINGOKINE® NP supports the dermal scaffold function by inducing fibroblast-derived signals for improved ECM (extracellular matrix) organization. In addition, dermal matrix formation is stimulated by keratinocyte- and adipocyte-derived signals. Thus, SPHINGOKINE® NP tightens the skin structure and tones skin tissues.

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The activity of SPHINGOKINE® NP proceeds even into the deep layer of the skin, the adipose tissue. Stimulation of adipocytes by SPHINGOKINE® NP leads to induced cross-talk between adipocytes and fibroblasts, which ultimately results in additional support of dermal ECM. Besides that, adipose matrix formation and modulation of lipogenesis is stimulated by SPHINGOKINE® NP, which results in denser subcutaneous fat tissue. This results in visibly plumped and reshaped skin.

The *in vitro* results have been confirmed by an *in vivo* study on people with mature skin. During this study it could be shown that SPHINGOKINE® NP reduces skin sagging and flattens wrinkle depth. Beside this it reshapes dermal scaffold.

With all these benefits SPHINGOKINE® NP, the multilayer skin activator, offers new opportunities for the development of anti-aging products. Beside the general use in anti-aging formulations it could be used for anti-sagging and facial contour applications.

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### **Company information**

Evonik, the creative industrial group from Germany, is one of the world leaders in specialty chemicals. Its activities focus on the key megatrends health, nutrition, resource efficiency and globalization. Profitable growth and a sustained increase in the value of the company form the heart of Evonik's corporate strategy. Evonik benefits specifically from its innovative prowess and integrated technology platforms.

Evonik is active in over 100 countries around the world. In fiscal 2011 more than 33,000 employees generated sales of around €14.5 billion and an operating profit (EBITDA) of about €2.8 billion.

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