Tests on Cosmetics: Requirements and Successful Implementations

Authors: M. Bayer, Ph.D., G. Schlippe, M.D., W. Voss, M.D., Dermatest GmbH, Münster, Germany

Keywords: Testing, efficacy, tolerability, scientific criteria, dermatologically tested, sensitive skin

Abstract

Dermatological tests in accordance with scientific criteria are of decisive value for the safety and efficacy of cosmetics. The latest alterations to European legislation emphasise this fact. Whether a cosmetic product is well tolerated or causes irritations or allergic reactions must be proven by dermatological tests. The range of test methods starts with simple questionnaires and ends with complex physiological measurements. The quality of dermatological reports directly depends on the seriousness of the commissioned dermatologists. Pitfalls occur whenever non qualified scientific results are generously used for advertising campaigns such as ‘dermatologically tested’, ‘allergy tested’, ‘hypo-allergenic’ etc. Additionally many reports are scientifically insufficient. Dermatological reports on cosmetics therefore must be valid in scientific methods and practical execution.

Introduction

The cosmetic industry is booming and growing and so are the claims concerning the degree of user-friendliness and effectiveness of cosmetic products. A current cosmetic product has to fulfil many claims and demands and this is not only due to its decorative effects; most of all, it has to be well-tolerated. Not only have the demands changed but also the average skin conditions. Skin conditions have developed to extremes in the population. There are more and more people suffering from very dry skin, sensitive skin and seborrheic skin. This has to be considered in formulating products for problematic skin conditions.

Safety First

Cosmetic products are principally concerned with their visual nature, rather than with their function and their formulation has been an exciting challenge for cosmetic chemists. A fundamental first step in the formulation is to ensure that every component complies with the relevant regulations in the country where the product will be sold. Today all countries have regulations controlling the type and purity of any material that may be used in cosmetics, whether it is an active or a passive ingredient. After toxicological approval, a cosmetic product has to pass dermatological tests to prove that it has no dermatologically harmful effects such as irritations. The risk of sensitisation depends on individual susceptibility and is genetically determined, with an increased incidence of positive patch testing among siblings and children. The sensitising properties of a substance applied are often dependent on its concentration. Therefore the testing of cosmetic products according to dermatological criteria is very important for the safety of these products.

Claims and Tests

A cosmetic claim is a benefit that can be perceived by a consumer when using either a decorative cosmetic or a skin care product. The legal classification of what cosmetics are and the regulatory systems to which they must comply vary in different countries. However, in 2013 the European regulation will be come into force which leads to a harmonised legislation. Regardless, cosmetic claims must be substantiated, which means that they must have what is called a reasonable basis to support the claim being made. There are three ways to substantiate a cosmetic claim which are shown in Figure 1.

1. By testing the cosmetic to demonstrate that customer experience supports the claim
2. By expert analysis and opinion which typically involves a review of already published information on a cosmetic ingredient or product type
3. By specified test methods that support the claims to be made

Figure 1. Ways to Substantiate Cosmetic Claims

Every cosmetic product has some specific claims to separate itself from other comparable products. To confirm these claims three different ways are possible which are shown above.