

# To Paraben or Not to Paraben

*by Dr. Diana Howard*

For years, parabens have been considered the mildest and most commonly used of all preservatives available to the cosmetic formulator. They are found not only in cosmetics, but in food and medicines as well. In the past five years, numerous claims have circulated, leading to extremely negative reactions to the use of Parabens in cosmetics. But are these claims true? When evaluating studies, one has to question the concentration of parabens that were tested and the way they were used – topically, by injection or orally. Most of the studies are of the latter two, which are not indicative of topical exposure, nor are they indicative of the concentrations generally found in a cosmetic product.

When used in cosmetics, parabens exist in concentrations of less than one percent. Furthermore, the Final Report on the Safety Assessment of parabens indicates that, “the parabens are non-toxic, non mutagenic, non carcinogenic, practically non irritating and non sensitizing in the human population with normal skin.” The overall conclusion is that parabens are safe to use in cosmetic products at the concentrations generally used. When compared to most other preservatives, parabens have an excellent safety record.

The bad press on Parabens stems from the publication of a report entitled Concentration of Parabens in Human Breast Tumors, by P. D. Darbre in the Journal of Applied Toxicology 24:5-13 (2004). In summary, the authors claim that parabens from deodorants mimic estrogen, which causes breast cancer. However, peer reviews indicate that the study does NOT find a causal link between underarm products containing parabens and breast cancer; furthermore, scientists state that only 20 individuals were in the study and no control group was analyzed.

What’s more, scientists were quick to point out that extensive independent research has previously shown that esterase III, a skin enzyme found in keratinocytes, completely hydrolyses topically applied parabens to harmless substances that cannot pose any risk of cancer (Biol. Chem 377 (1):647, 1996). Even the researchers involved with the original Darbre work admitted that they could not prove where the parabens came from in their study – they could have been from food or medicines and not cosmetics.

The Cosmetic, Toiletry, and Fragrance Association (CTFA) issued a statement defending the safety of parabens and maintains that the Darbre study is “very preliminary and based on a small sample size with inconsistent results. A wealth of data supports the safety of parabens.” Dr. Chris Fowler of the Cosmetic, Toiletry, and Perfumery Association (CTPA) stated that, “Parabens are officially approved for use under the Cosmetics Directive (76/768/EEC), the European legislation that regulates all cosmetics and toiletries. We can reassure the public that all cosmetic and toiletry products containing parabens may continue to be used safely.”

One source states that, “To date, numerous studies have recently provided new data on

parabens suggesting no adverse hormonal effect on the body” (Cosmetics design-europe.com (Nov. 18 2009). And the author of the study that triggered the concern over parabens even said “larger studies are needed to give more representative values for body burdens in different tissues and across the human population.” Additional studies are underway, which should better assess the impact of parabens on human health and find whether paraben accumulation from currently permitted levels in cosmetics, foods and pharmaceuticals remains acceptable.