

# Introduction

Cosmetic scientists frequently attend scientific conferences and trade exhibitions to find out about the latest developments in active ingredients. We can't even imagine cosmetic products without active ingredients any longer and that is a good thing! After all, are we selling hope in a bottle or are we formulating and selling a product that does what it claims to do?

I hope you will agree wholeheartedly with the latter, but the former is sometimes the reality. In order to obtain clinical efficacy from a cosmetic product, two issues need to be optimized: the intrinsic activity of the active ingredient and its delivery to the site of action at the right concentration in the correct period of time. There have been many developments in active ingredients in the last couple of years. The developments in active ingredient research happen fast and **you cannot afford to miss the next active principle that may contribute to your next blockbuster product.**

To create this compilation, I've (re)read all of the articles published in the last couple of years in *Cosmetics & Toiletries* magazine (2005-2008). I selected those that best met the objective of this book and then put them into a logical sequence. The objective of this compilation is to provide you with the latest in active ingredient research, from new chemicals to new developments in testing methodologies to prove the mechanism of action or clinical efficacy of the active ingredient. This book can be read from two different perspectives. First, as a user of these active ingredients to identify what is known about the active being used. This may be the predominant point of view of the formulating chemist from the manufacturing industry. Secondly, to address the question of how a certain type of mechanism or the efficacy of a novel active ingredient is being measured. The latter will come in handy when you have a new active ingredient for which you will need to establish these issues. This may be equally useful for chemists in the development labs of the manufacturing industry and the supplier industry.

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*The articles have been edited from their original publication for style consistency, but otherwise remain mostly unchanged from their original publication in C&T magazine.*

Section 1 deals with a general introduction and addresses issues like, “What is an active and what is its legal status?” and “How to test for activity,” but also gives the latest trends in both research and legislation. It also contains chapters that deal with the generation of decent cosmetic claim support packages (claim substantiation), as well as other formulation aspects that influence the efficacy of the active ingredient.

The meat of this book, Section 2, deals with Skin Aging. Nineteen chapters have been subdivided into the testing of antiaging actives, and thereafter by their varying mechanisms of achieving antiaging. Similar efficacies use similar testing methods, so you can compare to see what is most suitable for your own active. A decent knowledge of biochemistry and molecular biology is very important for this category of actives. Some suppliers explain the mechanisms of their actives very well but then don't include much experimental data, whereas others have the opposite. Together they provide an excellent overview of what is available in antiaging actives.

Section 3 deals with Skin Color; from whiteners to self-tanners.

Sections 4 and 5 discuss skin moisturizers and agents that influence the mechanical properties of skin. Developments here have been a little less dramatic than in previous years, but the chapters are definitely worth reading. One chapter was written specifically for this book and contains the very latest in skin moisturization research.

Section 6 discusses UV protection that does not directly involve DNA protection and anti-oxidation (which were already included in Section 2), but covers what is offered by other non-suncare technologies.

Section 7, finally, closes the book with a series of other biologically active ingredients, such as anti-irritants, hair growth and dandruff actives and slimming products.

Enjoy!

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