Preface to the Second Edition

Flavourings – a tradition in the family

With the present 2nd edition, this joint project of 41 authors has been updated and enlarged to include and reflect the recent changes and developments, which, also in the sector of flavourings and their technologies, occur at a breathtaking pace.

After laying the foundation for the first edition, Erich Ziegler has been able to pass on the editorship within the family, sharing his ongoing passion for the world of flavours. This 2nd edition had initially been scheduled as homage on the occasion of his 80th birthday in 2005, a target the large pool of authors could, however, not fulfil completely.

On behalf of all authors, I would like to dedicate this edition to Mr. Erich Ziegler, whose initiative and efforts were instrumental in gathering the first group of authors.

Edition 2 again represents a compendium which in its entirety is intended to familiarise the reader with the complex subject of flavourings, from raw materials to application methods and technology.

In addition to the numerous articles revised by their original authors, a considerable number of new authors and co-authors have joined our effort ensuring continuity and up-to-date contributions.

The preface to the 1st edition, also intended as a summary to guide the reader through the book, has in the majority retained its relevance for the present edition. The already extensive survey of our field of work is complemented by a number of new topics. Prof. W. Grosch provides the reader with a comprehensive survey of aroma analysis with a special emphasis on key odourants. Contributors from multinational food companies introduce a focus on final products in the section on applications. Additionally, the sector on non-natural flavors has been expanded to include the current state of the European chemical group classifications.

This 2nd edition today already possesses a ‘historical’ element for me, as a revision had originally been projected for the fifth year after the initial publication. However, with a team of authors as large as ours, the comparison with a ship - fully loaded, difficult to manoeuvre – may not be inadequate and I am, therefore grateful today that there have been ‘only minor deviations’ from the original schedule.

Unfortunately, a few authors did not succeed in submitting their revisions on time, but the publisher forged on, also to guarantee the topicality of those revisions which were submitted early.

The creation of such a collection of manuscripts is the result of that inner, mysterious urge to communicate, inherent to each and every author. To encourage, to revive this force is the small stimulus - sometimes gentle, sometimes more pronounced - provided by the editor in order to foster the conclusion that we all contribute towards making the magical world of flavours more accessible.
Dear co-authors, I do hope that you will not only pardon my persistence in trying to motivate you to write – in a world where time is more than scarce, especially for all those still tied up in the daily routines of companies or institutes – but will permit the light of positive retrospective to transform all these heights and depths into amusing anecdotes and commit negatives into the realm of oblivion.

I do also hope that you will share my pleasure and pride that we have succeeded in forming the majority of the manuscripts into a coherent whole and that the struggles of each and every ‘comrade-in-pens’ were in the end rewarded by the final outcome. I would like to again express my deep gratitude to all of you and also all those who participated in the prior edition. Without the support of all the companies and institutes, which made the participation of employees and access to their knowledge possible, this edition would not have been possible, a kindness for which I would like to express my appreciation.

I am also indebted to my sister-in-law Silvia Ziegler, whose untiring support as lector and translator made the book in its current form possible.

Additionally I would like to thank Wiley-VCH and especially Ms. Sora and Ms. Wüst for the constructive cooperation and their patience with our team of authors.

Just as in the first edition, acknowledging the support and help I received from so many sources is again a great pleasure. I would, therefore, like to express my deep gratitude to all those, who in personal or written form, offered assistance and encouragement. In this second edition, I could again rely on the valuable advice of Dr. George Clark, but I am also indebted to all those who provided a multitude of useful information and detailed insights into our industry.

Last – but not least, I would like to thank Dr. Salzer, who in addition to his numerous contributions as an author, has been invaluable for this second edition with his advice, understanding and support.

In remembrance of our co-author Mr. Herman Olsman, who passed away at the end of 2004 and whose contribution is no longer included in this book.

Although I certainly hope that every reader will come across interesting and innovative aspects concerning the world of flavourings within this collection of articles, it is certainly possible that one or the other aspect has been neglected, omitted or dealt with incompletely. All authors are entirely responsible for form and content of their respective contribution and will be pleased to receive questions, suggestions and any other scientific comments at the respective addresses.

Bayreuth / Aufsess, December 2006

Dr. Herta Ziegler
Preface to the First Edition

The book “Die natürlichen und künstlichen Aromen” was first published by Erich Ziegler in German in 1982 as a collection of 21 articles written by authors who are experts on their respective subjects.

This first edition, an overview of this interesting and diverse field of work intended for those involved in food flavouring application, has been completely revised in order to take the manifold changes into consideration. The present expanded collection of 37 different contributions is certainly still only selective; it features enlarged versions of all previous chapters and also includes articles on a number of newly emerging topics and developments.

To open up the new edition to an international readership, English has been selected as the language of publication.

“Flavourings” intends to grant its readership an insight into the production, processing and application of various food flavourings and also focuses on the basic and new analytical methods employed in this field.

The book draws on the expert knowledge of contributors with backgrounds both in industry and academia.

The following summary will guide you through the book:

The book starts with a short overview of the industry, including historical and economic aspects as well as current trends and future perspectives.

The next chapter describes the basic physical and biotechnological processes which are today available for the production of flavourings and flavour extracts. These range from more traditional methods such as extraction and distillation to more recent developments, e.g. supercritical fluid extraction, spray and freeze drying as well as microencapsulation, and include the rapidly increasing field of biotechnology.

Chapter 3 deals with the raw materials which are of interest for the flavour sector. The topics range from chemically defined flavouring substances, both of natural and synthetic origin, to flavouring preparations and source materials, such as complex natural extracts, essential oils and juices. Furthermore, process flavourings and non-flavouring compounds which are important for food technology are also presented.

The next chapter focuses on the interesting area of blended flavourings, often regarded as an artistic field of work.

Beverages, confectioneries, dairy products and industrial food products are today important sectors for the application of flavourings and are therefore described in section 5.

In the following, quality control via sensory, analytical and microbiological methods is dealt with. As the quality of foods is, today more than ever, in the focus of the public interest, the methods available for standardised quality evaluation have undergone an enormous improvement and specification process. The recent analytical
progress in the determination of natural origin of different food matrices will therefore be depicted in detail.

The last chapter focuses on questions dealing with legislative concerns, taking both geographic and ethical guidelines into consideration.

Acknowledgements:

The present book is a result of the efforts of 37 co-workers and the editors would like to express their gratitude to all those who contributed to this book and the respective companies and institutes which made this possible. In retrospect we have to admit that the cooperation of such a diverse crew of authors was not always easy to co-ordinate. In this context, we would like to express our deep gratitude to all those patient contributors who, despite the delays caused by those who were either late in submitting or who completely refrained from doing so, did not hesitate to keep their articles up-to-date. It is especially gratifying for us to see that our joint efforts have been rewarded by the present collection of articles which tries to capture the current state of knowledge.

The work of the last few years has been made considerably easier for the senior author through the constant help of his daughter-in-law, Dr. Herta Ziegler, who increasingly took over the tasks of an editor.

Moreover, we would like to express our gratitude to Dr. Uwe-Jens Salzer, who, apart from his contributions as author, was always very helpful and Mr. Kurt Roßbach, who kindly accepted the important and time-consuming office of the English technical reader.

We are also indebted to Mrs. Silvia Ziegler, who not only translated a number of articles but also took over all the tasks that an edition in English required.

Thanks also go to Mr. Günter Ziegler who always gave us new strength when our spirits faltered.

We would also like to thank Dr. T. Pillhofer for his technical advice and his expertise which was very helpful for the article on extraction.

Mr. J. Flores, FMC Corporation, kindly provided illustrations which appear in the chapters on fruit juices and citrus oils and we are also indebted to Dr. George Clark for his valuable advice.

In remembrance of Dr. R. Emberger, who was a contributor to the first edition, the editors would like to acknowledge his kindness and helpfulness also with this edition, where he provided the sensory evaluations for the citrus chapter.

Last but not least we would like to thank the Hüthig Verlag that made this book possible.

All authors are entirely responsible for their contributions and will be pleased to answer any questions concerning their subject or to receive constructive comments - please feel free to use the author’s addresses listed in the Index of Authors.

Aufseß, September 1997
Erich Ziegler
Herta Ziegler