



# Chemical Micro Process Engineering: Fundamentals, Modelling and Reactions

*By Volker Hessel, Steffen Hardt, Holger Löwe*

Download now

Read Online ➔

## **Chemical Micro Process Engineering: Fundamentals, Modelling and Reactions** By Volker Hessel, Steffen Hardt, Holger Löwe

Micro process engineering is approaching both academia and industry. With the provision of micro devices and systems by commercial suppliers, one main barrier for using these units has been eliminated. More and more they become familiar, thereby being one facet of the upheaval in chemical industry. This book focuses on processes rather than on devices: what is 'before' and 'behind' micro device fabrication. A comprehensive and detailed overview is given on: a multi-faceted, hierarchic analysis of chemical micro process technology; modelling and simulation of micro reactors; liquid- and liquid/liquid-phase reactions; gas/liquid reactions; and Gas-phase reactions (heterogeneous catalysis).

 [Download Chemical Micro Process Engineering: Fundamentals, ...pdf](#)

 [Read Online Chemical Micro Process Engineering: Fundamentals ...pdf](#)

# Chemical Micro Process Engineering: Fundamentals, Modelling and Reactions

*By Volker Hessel, Steffen Hardt, Holger Löwe*

**Chemical Micro Process Engineering: Fundamentals, Modelling and Reactions** By Volker Hessel, Steffen Hardt, Holger Löwe

Micro process engineering is approaching both academia and industry. With the provision of micro devices and systems by commercial suppliers, one main barrier for using these units has been eliminated. More and more they become familiar, thereby being one facet of the upheaval in chemical industry. This book focuses on processes rather than on devices: what is 'before' and 'behind' micro device fabrication. A comprehensive and detailed overview is given on: a multi-faceted, hierarchic analysis of chemical micro process technology; modelling and simulation of micro reactors; liquid- and liquid/liquid-phase reactions; gas/liquid reactions; and Gas-phase reactions (heterogeneous catalysis).

**Chemical Micro Process Engineering: Fundamentals, Modelling and Reactions** By Volker Hessel, Steffen Hardt, Holger Löwe **Bibliography**

- Sales Rank: #3536182 in Books
- Brand: Brand: Wiley-VCH
- Published on: 2004-04-12
- Ingredients: Example Ingredients
- Original language: English
- Number of items: 1
- Dimensions: 9.72" h x 1.56" w x 6.99" l, 3.30 pounds
- Binding: Hardcover
- 712 pages

 [Download Chemical Micro Process Engineering: Fundamentals, ...pdf](#)

 [Read Online Chemical Micro Process Engineering: Fundamentals ...pdf](#)

## **Editorial Review**

### Review

"In conclusion this is an excellent, comprehensive summary of the state-of-the-art in micro reactors and should be read by all process chemists and engineers interested in the field.... every industrial library involved in process R&D and chemical manufacture should purchase a copy." (*Organic Process Research & Development*)

"The critical evaluation of currently known microprocessors, the comprehensive analysis of the literature plus the numerous references make Chemical Micro Process Engineering a real handbook of chemical microtechnology, which will serve as a valuable information source for scientists of all disciplines. ... This book is a must for anyone interested in the application of microdevices to chemistry, and is of interest for chemists seeking new reactions, new conditions, and new catalysts, as well as for chemical engineers interested in process intensification.... However, because of its highly informative contents with many references, analyses of literature data, and critical evaluations of existing microsystems, this book is a true handbook of microdevices applied to chemistry, from which readers can derive valuable information for their own work." (*Angewandte Chemie I.E.*, Vol. 43, No. 48, 2004)

"It is clear that this book will help the chemical engineer to identify a relevant microreactor to implement a given chemical reaction. In this period where time is more than ever money, this book will be useful to quickly investigate the capabilities of these new devices to replace conventional ones in respect to both economical and ecological reasons." (*CIT - Chemie Ingenieur Technik*)

### Review

#### **From reviews to the project proposal:**

"Dr. Hessel is regarded as one of the top three international experts in this field."

—Ronald S. Besser, Louisiana Tech University, USA

"... There is no book with such a strong engineering focus on the market. All authors are internationally known for their work ..."

—S.J. Haswell, University of Hull, UK

"The authors are leading in this field and have an outstanding international reputation."

—Dr. Handa, BP Chemicals, UK

"The reputation of the authors is very high, they are leading experts in the area of microtechnology."

—Dr. Bayer, Siemens Axiva, Frankfurt/M., Germany

"The authors are recognized and competent experts on the topic of microtechnology."

—Prof. Hönicke, TU Chemnitz, Germany

"Besides being practical and informative, it's also a book a chemical engineer might have on his or her coffee table."

—Dr. Gerald S. Ondrey

From the Back Cover

Micro process engineering is approaching both academic and industry. With the provision of micro devices and systems by commercial suppliers, one main barrier for using these units has been eliminated. More and more they become familiar, thereby being one facet of the upheaval in chemical industry.

This book focuses on processes rather than one devices: what is 'before' and 'behind' micro device fabrication. A comprehensive and detailed overview is given on:

- Deductive analysis and rational design for chemical micro processing
- Modelling and simulation for chemical micro processing
- Microflow liquid-phase reactions (organic synthesis)
- Microflow gas/liquid reactions
- Microflow gas phase reactions (heterogeneous catalysis)

## **Users Review**

**From reader reviews:**

**Pauline Jefferson:**

Have you spare time to get a day? What do you do when you have far more or little spare time? Yep, you can choose the suitable activity regarding spend your time. Any person spent their particular spare time to take a move, shopping, or went to typically the Mall. How about open or even read a book titled Chemical Micro Process Engineering: Fundamentals, Modelling and Reactions? Maybe it is for being best activity for you. You know beside you can spend your time along with your favorite's book, you can cleverer than before. Do you agree with it is opinion or you have different opinion?

**David Colon:**

What do you in relation to book? It is not important together with you? Or just adding material when you need something to explain what the ones you have problem? How about your extra time? Or are you busy particular person? If you don't have spare time to do others business, it is make one feel bored faster. And you have free time? What did you do? Every person has many questions above. They must answer that question mainly because just their can do that. It said that about reserve. Book is familiar in each person. Yes, it is right. Because start from on kindergarten until university need this Chemical Micro Process Engineering: Fundamentals, Modelling and Reactions to read.

**Beverly Hummell:**

Are you kind of active person, only have 10 or perhaps 15 minute in your day to upgrading your mind proficiency or thinking skill possibly analytical thinking? Then you are receiving problem with the book than can satisfy your small amount of time to read it because this time you only find e-book that need more time to be read. Chemical Micro Process Engineering: Fundamentals, Modelling and Reactions can be your answer as it can be read by a person who have those short spare time problems.

**James Haney:**

Many people spending their time by playing outside having friends, fun activity together with family or just watching TV all day every day. You can have new activity to pay your whole day by examining a book. Ugh, do you consider reading a book can actually hard because you have to bring the book everywhere? It fine you can have the e-book, bringing everywhere you want in your Touch screen phone. Like Chemical Micro Process Engineering: Fundamentals, Modelling and Reactions which is finding the e-book version. So , try out this book? Let's notice.

**Download and Read Online Chemical Micro Process Engineering: Fundamentals, Modelling and Reactions By Volker Hessel, Steffen Hardt, Holger Löwe #IQTV2LE8P17**

# **Read Chemical Micro Process Engineering: Fundamentals, Modelling and Reactions By Volker Hessel, Steffen Hardt, Holger Löwe for online ebook**

Chemical Micro Process Engineering: Fundamentals, Modelling and Reactions By Volker Hessel, Steffen Hardt, Holger Löwe Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Chemical Micro Process Engineering: Fundamentals, Modelling and Reactions By Volker Hessel, Steffen Hardt, Holger Löwe books to read online.

## **Online Chemical Micro Process Engineering: Fundamentals, Modelling and Reactions By Volker Hessel, Steffen Hardt, Holger Löwe ebook PDF download**

**Chemical Micro Process Engineering: Fundamentals, Modelling and Reactions By Volker Hessel, Steffen Hardt, Holger Löwe Doc**

**Chemical Micro Process Engineering: Fundamentals, Modelling and Reactions By Volker Hessel, Steffen Hardt, Holger Löwe Mobipocket**

**Chemical Micro Process Engineering: Fundamentals, Modelling and Reactions By Volker Hessel, Steffen Hardt, Holger Löwe EPub**

**IQTV2LE8P17: Chemical Micro Process Engineering: Fundamentals, Modelling and Reactions By Volker Hessel, Steffen Hardt, Holger Löwe**