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Comments on: Book Review by Peter Myers on Michael J. Sailor: Porous Silicon in Practice. Preparation, Characterization and Applications

Michael J. Sailor

The reviewer brings up some important points in his review of the book. The author regrets any confusion the statement from the preface "This book is written for the beginner—someone who has no prior training in the field" may have caused. It should be stressed that this book is intended for the beginner to the field of porous silicon, not a beginner to the field of science or research in general. The user of this book should have a solid undergraduate-level understanding of chemistry, and be well-acquainted with the hazards and safety procedures used in a modern chemistry or materials research laboratory.

As the reviewer points out, HF is a hazardous chemical, and the reader should pay close attention to Sect. 2.4 (pg 48), which outlines the precautions in dealing with and disposing of HF and refers the reader to Appendix A2, titled "Safety Precautions when Working with Hydrofluoric Acid," (pg 235). Appendix A2 is devoted to the safe handling of HF, including the MSDS, the health effects of HF exposure to various tissues of the body, and the need for "GOGGLES AND SHIELD; LAB COAT AND APRON; VENT HOOD; PROPER GLOVES." That section also includes first aid for inhalation, ingestion, skin contact, and eye contact, and it includes directions to the physician in case an accidental exposure occurs. The fact that the reviewer appears to have missed these sections in the book suggests that others may also do so; it provides a good opportunity to stress the need for attention to the proper handling of HF and the other chemicals described in the book. In particular, setting up the reactor for the microwave-assisted hydrosilylation reaction described on pg 205 should be done in consultation with a safety specialist. The author wishes to re-emphasize that it is not appropriate to use a commercial microwave oven for such reactions—"the use of a microwave reactor designed for chemical reactions, and that has adequate explosion safety protection is recommended."

The book provides schematics for etching and gas dosing cells in a series of appendices. The reviewer recommends that the user seek advice from a qualified engineer on the design, construction, and testing of the gas dosing cell be obtained. Indeed, as every user will have different goals, input from a qualified engineer should be sought for all of the schematics given in the book to ensure that the devices will serve their intended purpose safely and effectively. In the case of the gas dosing cell, it should be stressed that the cell described in Appendix A3 is an open, vented cell meant to be operated at atmospheric pressure.

The author thanks the reviewer for his constructive comments and for emphasizing the need for adequate safety precautions when performing the experiments described in this book.

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