

---

# *PREFACE*

Since the first edition of this book, some things have not changed and others have. Today, engineers still have a moral, legal, and ethical responsibility to protect the public in professional practice and in design of products, buildings, processes, equipment, work, and workplaces. The importance of safety in engineering education remains a concern for most engineering degree programs. The need for safety specialists to understand basic technical fundamentals essential in hazard recognition, evaluation, and control continues. As a result, there is still a need for this book.

The laws, regulations, standards, and standard of practice in safety and health continue to change on a regular basis. As soon as a book is complete or updated, it is likely to be out of date in certain regulatory areas. The reader should recognize this type of change and consult government and voluntary standards to ensure compliance with current requirements.

Technology continues to change. Computer technology has changed the toolbox for nearly every professional field, and it impacts safety practice as well. Since the first edition was published, the Internet has become an integral part of professional practice, business and business transactions, and many other elements of daily life. Although the explosion in availability of information continues, one must be able to sort out valid, quality information and reliable information sources from those sources that are not. It is far easier today to find information as well as misinformation on a wide variety of safety issues.

The overall field of safety has changed. One significant trend is the continued growth in education of those practicing at the professional level. More individuals than ever who specialize in safety have advanced degrees. At the same time, many employers have achieved significant improvements in safety performance by moving safety knowledge and skills deeper into their organizations and workgroups. There seems to be a growing interest among people from other areas of work experience in finding a professional home in the broad safety field. Another trend is the rapid convergence of several related areas of practice. Two decades ago, safety, industrial hygiene, environmental science and engineering, environmental health, ergonomics, fire protection, and other areas of practice often were isolated from each other. Today, many of these have converged into a single organizational unit for an employer, and many individuals—regardless of their original backgrounds—have responsibility for many of these areas simultaneously. The overall impact is a change in what safety and health specialist do.

The original goal for this book was to help engineers and others gain a broad, quick overview of safety and health practices and to identify some of the detailed resources that may provide expanded help with applications. One of the most valued results of having written this book in the first place is having people who I have never met express appreciation for the assistance it provided them in their professional development. Many have told me that it helped them to understand what safety and health practice is about. It is rewarding to know that a personal project has assisted others professionally.

In completing the update, there are many to thank who may have contributed in some way to the insights offered among the revisions and who pressed me to keep working to complete the revision. I also want to thank my family for their continued support and for tolerating the time often stolen from family activities to make room for the revision effort after abnormally long but typical work weeks.

ROGER L. BRAUER

*Tolono, IL*