

Preface

EACH YEAR, FIRE CAUSES some 6,200 deaths, 30,000 injuries, and \$8 billion in property loss in the United States. Nationwide, 2.4 million fires, large and small, take their toll. Some, like the 1986 Dupont Plaza Hotel fire in Puerto Rico, involve large loss of both life and property. Clearly, fire is a major social issue.

Most fires involve the combustion of polymeric materials. Despite the involvement of polymers in fires, there have been no books on current research topics in this area of fire research in some years. Given the importance of fire and polymers as a social issue and the complexity and interest in the relevant basic science, Eli Pearce of Polytechnic University of New York and I cochaired a one-week symposium on fire and polymers. It was the first major symposium held on fire and polymers at an American Chemical Society National Meeting in about five years.

The symposium was planned as a state-of-the-art meeting, focusing on the basic science. Program areas included high heat polymers, fire performance of polymers, hazard modeling, mechanism of flammability and fire retardation, char formation, effects of surfaces on flammability, smoke assessment and formation mechanisms, and combustion product toxicity.

This book is based on that symposium. It is divided into five sections, designed to capture a representative segment of the latest research on fire and polymers. The book also includes some key contributions not presented at the symposium, all edited and organized for this book. The contributors are major figures in fire research, drawn from not only the United States but also Europe and Israel.

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