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## Preface

A systematic and comprehensive analysis of the thermal properties of substances, materials and processes is necessary for the prevention of hazards in industry. In the past, industry has developed chemical products and has optimized the production processes and the product properties/product quality looking for the best suitable properties for different application fields. Thus, we are using now polymers with different additives, e.g. flame retardants.

Looking to the future, it is necessary to follow-up some ideas on environmental precautions. On the one hand, we have to look for a reduction of materials flow, i.e. avoidance or minimization of waste, recycling or downcycling of materials and safe disposal of waste and process residues.

On the other hand, it is important to establish tools for process or product integrated environmental protection, i.e. products and processes should be developed which are safer and more tolerant regarding the environment and its organisms.

Therefore, life cycle analysis of products should be done, including the simulation of fire accidents and waste burning and waste disposal. Potential exposure of humans and organisms and the potential impact of hazardous compounds should be taken into account.

In this special issue, some papers deal with investigation of products, their properties regarding storage, degradation and improvement. Furthermore the usefulness of thermal methods concerning waste burning and residue quality is demonstrated. Investigations on sludge, sediment and coal are also included.

I thank all the authors for their contributions. They have put a great deal of effort into this volume.

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