DESCRIPTION

The shift towards being as environmentally-friendly as possible has resulted in the need for this important volume on the role of ionic liquids in green chemistry. Edited by Peter Wasserscheid, one of the pioneers of ionic liquid research, and Annegret Stark, this is an essential resource for anyone wishing to gain an understanding of the world of green chemistry, as well as for chemists, environmental agencies and chemical engineers.

ABOUT THE AUTHOR

Series Editor:

Paul T. Anastas joined Yale University as Professor and iserves as the Director of the Center for Green Chemistry and Green Engineering at Yale. From 2004-2006, Paul Anastas has been the Director of the Green Chemistry Institute in Washington, D.C. Until June of 2004 he served as Assistant Director for Environment at e White House Office of Science and Technology Policy where his responsibilities included a wide range of environmental science issues including furthering international public-private cooperation in areas of Science for Sustainability such as Green Chemistry. In 1991, he established the industry-government-university partnership Green Chemistry Program, which was expanded to include basic research, and the Presidential Green Chemistry Challenge Awards. He has published and edited several books in the field of Green Chemistry and is one of the inventors the 12 principles of Green Chemistry.
PD Dr. Annegret Stark and Prof. Peter Wasserscheid

Annegret Stark studied pharmaceutical chemistry at the University of Applied Sciences in Isny, Germany. She conducted her diploma thesis in 1997 in the labs of R.D. Singer at St. Mary's University in Halifax, Nova Scotia, who inspired her to take up a researcher's career in the field of ionic liquids. After finishing her PhD in K.R. Seddon's research group at the Queen's University of Belfast, Northern Ireland, in 2001, she moved on to South Africa for a SASOL-sponsored postdoc in the group of H.G. Raubenheimer at Stellenbosch University (2001-2003).

Since 2011, she heads her own research group at the Institute for Technical Chemistry in Leipzig, Germany. Her research focus lies, on the one hand, on the elucidation of structure-induced interactions between ionic liquids and solutes, and the resulting effects on the reactivity of these. On the other hand, she is interested in the application of microreaction technology, e.g. in the conversion of highly reactive intermediates. Both, ionic liquids and microreaction technology, are exploited as tools with the goal to provide sustainable chemical and engineering concepts.

Peter Wasserscheid studied chemistry at the RWTH Aachen. After receiving his diploma in 1995 he joined the group of Prof. W. Keim at the Institute of Technical and Macromolecular Chemistry at the RWTH Aachen for his PhD thesis. In 1998 he moved to BP Chemicals in Sunbury/GB for an industrial postdoc for six months. He returned to the Institute of Technical and Macromolecular Chemistry at the RWTH Aachen where he completed his habilitation entitled "Ionic Liquids - a new Solvent Concept for Catalysis". In the meantime, he became co-founder of Solvent Innovation GmbH, Cologne, one of the leading companies in ionic liquid production and application (since December 2007 a 100% affiliate of Merck KGaA, Darmstadt). In 2003 he moved to Erlangen as successor Prof. Emig and since then is heading the Institute of Reaction Engineering. In 2005 he also became head of the department "Chemical and Bioengineering" of the University Erlangen-Nuremberg. P. Wasserscheid has received several awards including the Max-Buchner-award of DECHEMA (2001), the Innovation Award of the German Economy (2003, category "start-up") together with Solvent Innovations GmbH and the Leibniz Award of the German Science Foundation (2006). His key research interests are the reaction engineering aspects of multiphase catalytic processes with a particular focus on ionic liquid reaction media. The Wasserscheid group belongs to the top research teams in the development and application of ionic liquids in general, and in developing the ionic liquid technology for catalytic applications in special. For various reaction types the group has successfully demonstrated greatly enhanced performance of ionic liquid based catalyst systems vs. conventional systems.

Peter Wasserscheid has a scientific track record of more than 130 publications in peer-reviewed scientific journals plus many papers in the form of proceedings. Moreover, he is a co-inventor of more than 40 patents, most of them in the field of ionic liquids.