

Vahid Sendijarevic, Ph.D.
President



Background

B.S., 1970, Chemistry, University of Sarajevo, Sarajevo, Bosnia; 1975, Ph.D., Chemistry, University of Zagreb, Zagreb, Croatia; 1977-88, Various senior positions including Manager of R&D Department, SODASO, Polyurethane Chemistry, Tuzla, Bosnia; 1988-2001, Research Professor, Polymer Institute, University of Detroit Mercy, Detroit, Michigan; 2001-present, President, Troy Polymers, Inc., Troy, Michigan.

Research areas and activities

Author of over 90 technical articles (papers, book chapters, conference proceedings) and 16 US patents. Over 25 years of academic and industrial experience in research and development of polyurethanes and related isocyanate-based polymers. As Manager of the Research and Development Department at the SODASO Polyurethane Chemistry, I was a major contributor in the development of polyether polyols and polyurethane systems with annual production of over 25,000 tons. As a Research Professor at the University of Detroit Mercy, I carried out numerous contract research projects for U.S. and foreign companies. My research expertise include: clear hydrogels, heat resistant polymers, morphology and structure properties relationships, elastomers, foams, binders, composites, polymer processes, biodegradable materials, materials resistant to ionizing radiation, recycling.

Selected Publications

Sendijarevic, V., “Chemical Recycling of Mixed Polyurethane Foam Stream Recovered from Shredder Residue into Polyurethane Polyols,” **2007**. *Journal of Cellular Plastics*, **43**, 31-46.

Sendijarevic, I., and **Sendijarevic, V.**, “Shape Memory Foams: Applications in Packaging.” October 17-19, 2005. *Proceedings of the Polyurethanes Conference 2005*, Sponsored by the Alliance for the Polyurethanes Industry, Houston, Texas, p.p. 502-508.

Sendjarevic, V., Sendjarevic, A., Sendjarevic, I., Bailey, R.E., Pemberton, D., and Reimann, K.A., “Hydrolytic Stability of Toluene Diisocyanate and Polymeric Methylenediphenyl Diisocyanate Based Polyureas under Environmental Conditions.” **2004**. *Environ. Sci. Technol.*, 38, 1066-1072.

Klempner, D. and **Sendjarevic, V.**, “Polymeric Foams and Foam Technology,” 2nd Edition, Hanser Publishers / Hanser Gardener Publications, Inc., Cincinnati (**2004**)

Gebreselasie M.G., Wolf G.H., **Sendjarevic, V.**, Anjum Q., Klempner D., and Kurt C.F., “Utilization of Polyurethane Foam Scrap as a Sole Binder for Recycling of Automotive Interior Trim Products.” **2000**. *Journal of Cellular Plastics*, 36(5), 386.

Sendjarevic V., Anjum Q., Klempner D., Frisch K.C., Gebreselassie G.M., and Wolf H.G., “Utilization of Isocyanate-based Binders in Recycling of Scrap Automotive Headliners.” **1999**. *Advances in Plastics Recycling - Recycling of Polyurethanes*; K.C. Frisch, Daniel Klempner, and Geoffrey Prentice, eds., Technomic Publishing Co., Inc., Lancaster, Pennsylvania, Vol. 1, p.p. 241-250.

Garrett, D., Bai Hebi, Gu J., Gupta, U., Kresta, J.E., **Sendjarevic, V.**, and Klempner, D., “Recycling of Mixed Color Automotive Thermoplastics.” **1998**. *International Congress & Exposition, Society of Automotive Engineers*, February 23-26, 1998, Detroit, Michigan, SAE Technical Paper Series 981155.

Sendjarevic, V., Sendjarevic, A., Frisch, K.C. and Reulen, P., “Novel Isocyanate-Based Matrix Resins for High Temperature Composite Applications.” **1996**. *Polymer Composites*, 17(2), 180.

Sophiea, D., Klempner, D., **Sendjarevic, V.**, Suthar, B. and Frisch, K.C., “Interpenetrating Polymer Networks as Energy-Absorbing Materials.” **1994**. *Interpenetrating Polymer Networks*; Klempner, D., Sperlings, L.H. and Utracki, L.A., Editors. *Advances in Chemistry Series 239*, American Chemical Society, Washington, DC, pp. 39-75.

Haschke, E., **Sendjarevic, V.**, Wong, S. and Frisch, K.C., “Clear Nonionic Polyurethane Hydrogels for Biomedical Applications.” **1994**. *Journal of Elastomers and Plastics*, 26(1), 41-57.

Frisch, K.C., **Sendjarevic, V.**, Sendjarevic, A., Lekovic, H., Kresta, J.E., Klempner, D. Hunter, L. and Banuk, R., “New Heat Resistant Isocyanate Based Foams for Structural Applications.” **1992**. *Journal of Cellular Plastics*, 28(4), 316.

Lee, K.D., Chen, L., Sendjarevic, A., **Sendjarevic, V.**, Frisch, K.C. and Klempner, D., “Effect of Morphology on Sound Attenuation of Flexible Polymeric Foams.” **1991**. *J. Cell. Plastics*, 27, 135.

List of Patents

Sendijarevic, V., Sendijarevic, A., and Sendijarevic, I., “Foam articles,” U.S. Patent No. **7,303,536**; December 4, 2007 (to Troy Polymers, Inc.).

Sendijarevic, V., Sendijarevic, A., and Sendijarevic, I., “Foam articles,” U.S. Patent No. **7,276,036**; October 2, 2007 (to Troy Polymers, Inc.).

Sendijarevic, V., Sendijarevic, A., and Sendijarevic, I., “Orthopedic casting articles,” U.S. Patent No. **6,984,216**; January 10, 2006 (to Troy Polymers, Inc.).

Sendijarevic, V., “Process for chemical recycling of polyurethane-containing scrap,” U.S. Patent No. **6,750,260**; 2004 (to Troy Polymers, Inc. and Polyventure, Inc.).

Sendijarevic, V., “Foams Having Shape Memory.” U.S. Patent No. **6,583,194** June 24, 2003 (to Troy Polymers, Inc., Troy, Michigan).

Gebreselassie, G.M., Wolf, H.G., **Sendijarevic, V.**, Anjum Q., Klempner, D., and Frisch, K.C. “Method of Recycling Scrap Material Containing a Thermoplastic.” U.S. Patent No. **6,576,176** June 10, 2003 (to Lear Corporation, Southfield, Michigan).

Hann, D.G., **Sendijarevic, V.**, Frisch, K.C., "Polyurethane foam composites for grower applications and related methods." U.S. Patent No. **6,479,433** October 2, 2002 (to Smithers-Oasis Company, Cuyahoga Falls, OH).

Gebreselasie, G.M, Wolf, H.G., Frisch, K.C., Klempner, D., and **Sendijarevic, V.**, “Method of recycling polyurethane foam components.” U.S. Patent No. **6,299,811** October 9, 2001(to Lear Corporation, Southfield, Michigan).

Smith, M.G., **Sendijarevic, V.**, Klempner, D., Frisch, K.C., “Solids Produced from Ash and Process for Producing the Same.” U.S. Patent No. **6,180,192** January 30, 2001 (to Wood Waste Energy, Inc., St. Louis, MO).

Sendijarevic, A., **Sendijarevic, V.**, Frisch, K.C., Cenens, J.L.R., Handlin, Jr., D.L., Chin, S.S., and Hernandez, H., “Polyurethanes Having Improved Moisture Resistance.” U.S. Patent No. **6,111,049** August 29, 2000 (to Shell Oil Company, Houston, Texas).

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Handlin D.L., Chin S.S., Sendijarevic, A., **Sendijarevic, V.**, and Frisch, K.C., “Cast Polyurethane Elastomers Containing Low Polarity Amine Curing Agents.” U.S. Patent No. **5,955,559** Sep. 21, 1999 (to Shell Chemical Company, Houston, Tex.).

Gebreselasie, G., Wolf, H.G., Frisch, K.C., Klempler, D., and **Sendjarevic, V.**, “Recycling Trim Components.” U.S. Patent No. **5,807,513** Sept. 15 1998 (to UT Automotive Dearborn, Michigan).

Ong, E.T and **Sendjarevic, V.**, “Process for Preparing Nanosized Powder.” U.S. Patent No. **5,698,483** Dec. 16, 1997 (to Institute of Gas Technology, Des Plaines, Illinois).

Hill, G.A, Frisch K.C., **Sendjarevic, V.**, Wong, S.W., “Interpenetrating Polymer Networks for Contact lens Production.” U.S. Patent No. **5,674,942** Oct. 7, 1997(to Johnson & Johnson Vision Products, Inc., Jacksonville, Fla).

Hill, G.A, Frisch K.C., **Sendjarevic, V.**, and Wong, S.W., “Reaction Injection Molding as a Process to Prepare Contact Lenses.” U.S. Patent No. **5,656,210** Aug. 12, 1997 (to Johnson & Johnson Vision Products, Inc., Jacksonville, Fla).

Patent Applications

Sendjarevic, I., **Sendjarevic, V.**, “Process for preparing polyols,” U.S. Patent Application No. **20070197668** A1; August 23, 2007 (to Troy Polymers, Inc.).

Kassa, A., Harthcock, M., Sendjarevic, A., and **Sendjarevic, V.**, “Activable material and method of foaming and using same,” U.S. Patent Application No. **20050230027** A1; October 20, 2005 (to L&L Products, Inc.).