

# Polymer Chemistry

30<sup>th</sup> International Conference on

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# Materials Chemistry & Science

August 27-28, 2018 | Toronto, Canada



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### Inorganic/organic hybridized polymers for use in various high performance applications

A new resin matrix has been developed that is primarily silicone based but also has hexaacrylate alkene functionality. It reacts through aerobic redox polymerization rapidly, to provide a polymer that is chemical resistant, heat resistant, flexible, and can act as a carrier for insulation materials, which performs as sprayable insulation. This resin can also act as a new NISO product, as the level of acrylate and silicone, allow for high resistance to UV degradation and is polymerized as the process indicates above. This can also be used as a precursor for emulsion polymerization. The material can be fed simultaneously with other monomers, protective colloids, initiators, etc. to create a water-based silicone acrylate polymer. A patent has been filed and is pending on this chemistry.

### Biography

David M Parish Staff Scientist in Protective & Marine Division at Sherwin Williams Company Staff Scientist at Glatfelter, Chillicothe, OH. Sean Zuckerman, PhD (2013): Case Western Reserve University, and Nivasu Venkata Muram, PhD (2012). Ohio State University – BS (Organic Chemistry), 1986 Collaborators & Other Affiliations-Horst von Recum, PhD (Biomedical Engineering, Case); Patrick Ziemer (Corporate Polymers Group, Sherwin Williams (SHW)); Andrew Taylor, PhD (Lead Scientist-UK, SHW); Petra Allef, PhD (Innovation, Evonik); Thomas Klotzbach, PhD (Senior Lab Manager-Additives & Silicone Resins, Evonik); Gerald L. Witucki, (Assoc. Scientist, Dow Corning); Maria Nargiello, PhD, (Technical Director, Evonik).

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