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UV Curing Technology: A Route to Solvent-Free Adhesives and Coatings

Dr. Stephen Cantor

ACS Speaker Tour

Tuesday April 8, 2014

1-Network Mixer at MacGregors (300 Jefferson Road, Henrietta) 5:00—6:30 PM

2-Presentation at RIT 7:00—8:15 PM

Gosnell Building Rm. 1250

Rochester Institute of Technology

(1 Lomb Memorial Drive, Rochester, NY)

Abstract: UV curing technology is a method of instant curing, in seconds, in which ultraviolet light is applied to resins such as coatings, adhesives, marking inks and photo-resists, etc. to cause photopolymerization. There are no solvents required because the liquid monomers act as solvents prior to their conversion to the polymer matrix. The presentation will discuss adhesives and conformal coatings which are single component systems that require no mixing and cure on demand via UV exposure. The role of color change and fluorescence response as method to impart quality control to the process is particularly important in the production of medical products such as anesthesia masks and hypodermic needles. The adhesives are ideal for bonding dissimilar materials and small parts. On-site wind shield damage repair is one aspect that is part of the technology as well as the role of glass bonding to create works of art.

Stephen Cantor received his B. S. from Queens College and his Ph. D. from the University of Rochester in 1964. After his post-doctoral position at the University of Arizona, Cantor joined the staff at the Research Center of US Rubber (Uniroyal) where he worked on the development of rubber chemicals, adhesives and agricultural chemicals. Following this position, Cantor worked for several other companies. In 1990, he joined Dymax Corp in Torrington, CT as their Laboratory Manager where he worked on UV/Visible curing technology to produce adhesives and coating systems that contained NO solvents. He retired from Dymax in 2011 and continues as a consultant. During Cantor's career, he received numerous patents as well as serving as an adjunct instructor at several universities in New Haven and Bridgeport, CT.

Reception follows presentation at 8:15 PM

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