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POSS® viscoelastic hemostat

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Statement of the Problem: The major cause of battlefield mortality and morbidity is uncontrolled hemorrhage, with non-compressible wounds particularly to blame. Many attempts have been made to find a product or device that fulfills the armed forces designation of a "perfect" hemostat, but little success has been achieved. POSS (polyhedral oligomeric silsesquioxane) additives provide unique opportunities to rationally control permeation, transport and surface modification of both man-made and biologically relevant materials. POSS enhanced medical and personal care products have been in the UK and US markets for several years. This presentation will highlight POSS® as a hemostatic device. Recently we conducted preliminary tests on the *in vivo* hemostatic capabilities of a syringible semi-liquid elastomer. We demonstrated hemostatic properties *in vitro* and found the POSS formulation exhibits many of the desired properties of an ideal hemostat. Additionally, we observed that POSS reduced or stopped hemorrhage in what currently is known as the standard Armed Forces porcine model of uncontrolled hemorrhage. The mechanism of action of the POSS viscoelastic hemostat, along with its comparative performance relative to other hemostatic agents will be presented.

Biography

Joseph D Lichtenhan is a Co-Founder of Hybrid Plastics Inc. and served at its CEO and President for 18 years. He is a pioneer and world authority in the field of POSS® additives. POSS has been hailed as the first entirely new chemical class of monomers to be developed since 1955. His insights into their commercial utility launched the global sales for POSS® in 1998. He has excelled at technology transition and the establishment of a global footprint for POSS® via innovative sales and marketing techniques.

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