

Application note: Pertinax™ antimicrobial silicones for wound care

Introduction

Silicones are a common component of wound dressings, often forming the layer that directly contacts the skin and wound. They are, therefore, a good candidate for the incorporation of antimicrobial substances, offering the potential for both control of microbes within the dressing, and, when required, delivery of antimicrobial to the wound bed. Antimicrobials used in wound care include silver, PHMB and chlorhexidine. There is opportunity for differentiation, as well as control of dose over a period of 7-14 days, by incorporating a novel, sustained efficacy antimicrobial technology, Pertinax.

Pertinax technology

Pertinax is a patented technology that provides slow release of chlorhexidine when in an aqueous environment. The chlorhexidine is sequestered in complex phosphate salts, and the release kinetics including dose and duration can be selected using formulation and other parameters. Pertinax technology is proprietary to Pertinax Pharma Ltd, a company in north Bristol, UK.

Pertinax silicones

Pertinax can be incorporated into biomedical silicones conferring effective antimicrobial efficacy (Fig. 1). Pertinax does not adversely impact physical properties of the silicones, although for translucent silicones, the white Pertinax powder does confer some opacity.

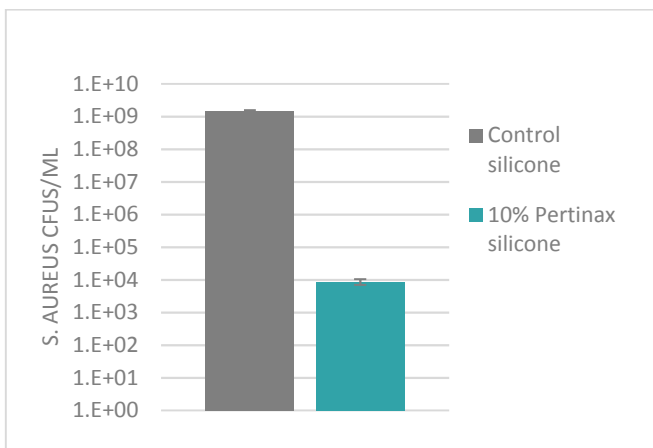


Figure 1. Silicones doped with 10% Pertinax reduce colony forming units of *S. aureus* by 10⁵.

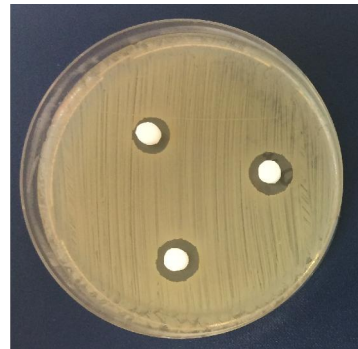


Figure 2. Silicones doped with 10% Pertinax provide zones of inhibition on lawns of *E. coli*.

Opportunities

To explore opportunities to incorporate Pertinax into silicones for applications within your woundcare products, contact info@pertinaxpharma.com