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(57) Abstract :

ABSTRACT ANTIMICROBIAL WORKWEAR WITH pH-BALANCING HYBRID FABRIC FOR VAGINAL HEALTH The invention relates to textile manufacturing and provides an antimicrobial workwear article featuring a dual-layer hybrid fabric structure comprising a first inner fabric layer of lyocell fibers in a jacquard knit and a second outer fabric layer of a polyester-lurex blend. A natural bioactive coating consisting of an aqueous emulsion with approximately 5% chitosan and 10% aloe vera, adjusted to a pH of 5.5, is applied over the fabric structure. The method involves dipping the dual-layer fabric into the emulsion at about 40°C followed by a heat curing step at approximately 120°C for 2 minutes to bond the coating, thus yielding enhanced antimicrobial properties combined with fabric durability and performance.

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