

# Conformal, Waterproof Electronic Decals for Wireless Monitoring of Sweat and Vaginal pH at the Point-of-care

**Waterproof, flexible electronic decals wirelessly track sweat or vaginal pH for point-of-care health diagnostics.**

Researchers at Purdue University have created waterproof electronic decals (WPEDs) which are flexible electronic devices capable of continuously monitoring pH levels of biofluids wirelessly. The devices are fabricated on biocompatible materials and are lightweight, breathable, flexible, and easy to apply. The devices use a polyaniline/silver composite to measure a wide range of pH, covering the clinically relevant ranges of most biofluids. WPEDs can be worn on the skin to stimulate sweat and measure sweat pH, or be attached to the surface of sanitary tampons to detect bacterial vaginosis by monitoring vaginal pH.

## **Advantages:**

- Lightweight
- Breathable
- Flexible
- Easily applied to skin or sanitary product
- Measure wide range of pH
- Easily disposed of by burning

## **Potential Applications:**

- Diagnosing vaginosis
- Monitor wound healing by tracking the pH

**TRL: 4**

## **Technology ID**

2020-MART-68931

## **Category**

Digital Health &  
Medtech/Wearable Health Tech  
& Biosensors  
Materials Science &  
Nanotechnology/Composites &  
Hybrid Materials

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