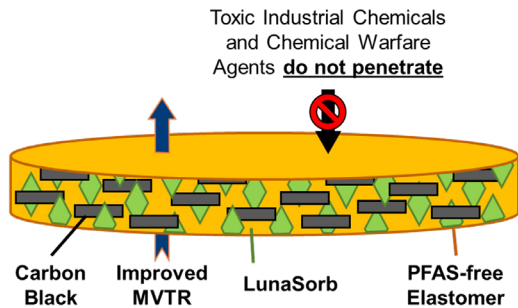


Chemical Resistant Gloves

Comfortable & Durable Protection



Product Name: Knight Guard

Material Type:

PFAS Free Polymeric Material

Application: Hazmat

Revolutionary Advantages:

Provides exceptional chemical protection without compromising dexterity or thermal burden

Technology Readiness Level 5:

Technology demonstrated in relevant environment - (Testing under National Fire Protection Association Class I)

1-hour chemical protection against:

TICs $\leq 6.0 \mu\text{g}/\text{cm}^2$ – Butyl rubber fails

Sulfur Mustard $\leq 4.0 \mu\text{g}/\text{cm}^2$

Soman $\leq 1.25 \mu\text{g}/\text{cm}^2$

Low Vapor Pressure Chemicals $\leq 6.0 \mu\text{g}/\text{cm}^2$

Benefits

Touch screen compatible

Flexible material enables dexterity

PFAS Free

SBIR Topic

CBD203-001

Solution

Luna Labs has developed a next-generation glove material that is free of perfluoroalkyl substances (PFAS). This elastomeric mixed matrix composite (MMC) glove material has exceptional chemical resistance, surpassing traditional butyl rubber. Extensive testing by Battelle has shown that the MMC material meets the chemical resistance standards outlined by the National Fire Protection Association (NFPA) 1994 Class I category, providing one-hour protection against various toxic industrial chemicals (TICs) and chemical warfare agents (CWAs). Our MMC material also offers touch screen compatibility, improved flexibility, and dexterity compared to butyl rubber. It is entirely PFAS-free and easy to manufacture using standard glove manufacturing techniques.

Background

The proliferation of weapons of mass destruction is a security threat to personnel worldwide. Military warfighters and first responders need to be prepared to operate effectively in CBRN environments and respond swiftly to threats. Current CBRN gloves provide excellent protection but lack dexterity and touch screen capability. There is a need for innovative barrier materials that offer both function and chemical protection without compromising dexterity or thermal burden.

Opportunity

Our advanced polymeric material is available for license or purchase by contacting us at info@lunallabs.us. Luna Labs is also interested in partnerships and collaborative research and development.

For more information contact:

Cameron Childs - Advanced Materials Business Development Manager - cameron.childs@lunallabs.us

LUNA LABS CAPABILITIES

Military-Specific Materials Development
Performance Evaluation & Testing
Lightweight Materials & Structures
Chemical & Biological Defense

Material Synthesis & Characterization
Material Design & Optimization
Failure Analysis & Forensic Investigation
System Integration & Engineering Support

Advanced Coatings & Surface Engineering
Sustainability & Green Materials
Collaboration & Technology Transfer