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SONICS

BIO-SKIN

FACT SHEET



LIGHTWEIGHT AND VERSATILE CBRN PROTECTION

The SONICS Bio-Skin is a lightweight, discrete and breathable stretch fabric with a unique design that offers exceptional mobility, comfort and protection in a CBRN environment. Leveraging the very latest GORE® CHEMPAK® Selectively Permeable Membrane (SPM), the Bio-Skin's chemical and biological properties provides maximum protection while minimising thermal

burden. Its versatile design easily integrates with many types of outer garments for use in Air, Land and Sea environments. In addition, the GORE® CHEMPAK® Selectively Permeable Membrane used to construct the SONICS Bio-Skin is component certified to meet NFPA 1994, Class 3 current edition standards for 'warm zone' operations.

A NEW TYPE OF CBRN PROTECTION...

PERFORMANCE ATTRIBUTE	BIO-SKIN SPM PROTECTIVE SYSTEM	CARBON BASED PROTECTIVE SYSTEMS
Lightweight	Typical fabric system weight is 270g/m ²	Typical fabric system weight is 630g/m ²
Protection after exposure to wet sweat	YES	LIMITED - Carbon is compromised when saturated
Protection against wind driven sand/ rotorwash	YES - SPM is air impermeable, the membrane barrier system blocks the penetration of aerosols and particulates	LIMITED - Air permeable material allows aerosols and particulates to penetrate
Protection against liquid penetration even with pressure	YES - SPM barrier based material prevents liquid penetration even under pressure	NO - Carbon based systems cannot prevent liquid penetration
Protection after exposure to Battle Field Contaminates (BFC's) like petroleum, oils or lubricants	YES - Protection even after exposure to BFC's	NO - Carbon based systems will not protect after exposure to BFC's and must be replaced.
Protection against a broad range of Toxic Industrial Chemicals (TIC's)	YES - SPM passes the National Fire Protection Standard 1994 Standard on Protective Ensembles for First Responders to CBRN Terrorism Incidents (Class 3)	NO - Fails the National Fire Protection Standard 1994 Standard on Protective Ensembles for First Responders to CBRN Terrorism Incidents (Class 3)
Protection against non-traditional agents (NTA's)	YES - References for classified test results can be provided upon request	UNKNOWN - Protection provided is suspect based on test methodology employed by U.S. DoD
Protection against blood borne pathogens such as Ebola and HIV	YES - SPM passes the National Fire Protection Standard 1994 Standard on Protective Ensembles for First Responders to CBRN Terrorism Incidents (Class 3) - Viral Penetration	NO - Fails the National Fire Protection Standard 1994 Standard on Protective Ensembles for First Responders to CBRN Terrorism Incidents (Class 3) - Viral Penetration
Maintain protection even after being removed from storage bag	YES - No degradation of SPM protection when exposed to atmosphere. No deterioration after >10 years	LIMITED - Carbon based protection system can degrade after exposure to atmosphere, once removed from vacuum sealed packaging. Typical life once exposed to oxygen <30 days
Vapour protection in windy conditions	YES - Air impermeable barrier protects even in windy conditions	LIMITED - Independent studies indicate protection decreases when wind speeds increase
Ability to offer broad protection to a range of CBRN threats with no compromise in thermal burden	YES - Thermal burden of moisture vapour barrier is equivalent to air permeable carbon systems whilst also providing protection against a broad range of threats in vapour, liquid and aerosol forms	NO - Protection only against traditional chemical warfare agent vapours
Laundering ability	YES - SPM can be laundered up to 15 times	No - Can not be laundered
Decontamination ability	YES - Can be easily decontaminated	NO - Cannot be decontaminated
Cost	Through life costs are significantly lower, due to extended life decontamination and laundering ability	Initial unit cost will be cheaper, but volume rate of consumption will be significantly higher

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SURVITEC GROUP LIMITED

RFD Beaufort Ltd
 1-5 Beaufort Road, Birkenhead, CH41 1HQ, United Kingdom
 Tel: +44 (0) 151 670 5466 / Fax: +44 (0) 151 652 8276
 Email: info@survitecgroup.com
www.survitecgroup.com