



**LION**<sup>®</sup>  
ready for action



# RUGGED, DURABLE CHEM-BIO GARMENTS

LION CBRN PPE for enhanced dexterity and superior protection.

# MT94™

## MAXIMUM PROTECTION UNCOMPROMISED MOBILITY

The MT94™ (Multi-Threat) CBRN ensemble offers first responders advanced protection when facing some of the world's worst chemical and biological threats. There are models designed specifically for law enforcement, fire, EOD and military use. The MT94 is available in front entry and rear entry configurations.

### BENEFITS

- Limited Hot Zone protection – certified to NFPA 1994, Class 2 and NFPA 1992 for hot zone operations
- GORE® CHEMPAK® Ultra Barrier Fabric provides durable protection against TICs and CWAs above Immediately Dangerous to Life and Health (IDLH) concentration levels while also providing improved mobility during tactical and technical operations
- Streamlined design combines durability, mobility and comfort
- Usable for multiple wears and washings, if not exposed or contaminated
- Rugged construction allows you to perform in the most challenging of circumstances
- Options include pockets, 3M Ventilated Trim™, Velcro® attachment points, MOLLE and playbook on forearm
- Certified for use with GORE® G9492™ glove system using GORE® CHEMPAK® Ultra Barrier Fabric
- Certified with variety of face pieces and boots, ask for the current listing

### APPLICATIONS

- SWAT
- HAZMAT
- Explosives ordnance disposal
- Clandestine lab entry
- Technical rescue in contaminated environment
- WMD or terrorist incident





**GORE™ CHEMPAK™**  
PRODUCTS

**DuPont™**  
**Nomex.**

**3M Scotchlite™**  
Reflective Material  
3M and Scotchlite are trademarks of 3M company.

**MT94 GARMENT SPECIFICATIONS**

<b>Certification:</b>	NFPA 1994, Class 2 and NFPA 1992
<b>Zone:</b>	Hot
<b>Systemic Physiological Protective Dosage Factor (PPDFsys):</b>	Average PPDFsys 1,100 – 1,300
<b>Garment Design:</b>	One piece, rear and front entry designs
<b>Barrier Technology:</b>	GORE® CHEMPAK® Ultra Barrier Fabric
<b>Hand Protection System:</b>	GORE® G9492™ glove system with GORE® CHEMPAK® Ultra Barrier Fabric worn under Nomex® outer glove
<b>Foot Protection System:</b>	Integrated bootie with GORE® CHEMPAK® Ultra Barrier Fabric
<b>Respiratory System:</b>	Contact LION at CBRN@lionprotects.com for options
<b>Storage Life:</b>	Up to 10 years
<b>Multi-Use:</b>	Yes, if not damaged, exposed or contaminated
<b>Available Training Suit Models:</b>	CMTRN=71, CMTRNA=71, CMTRNFE=71, CMTRNFEA=71

**BARRIER CHEMICAL PERMEATION GUIDE**

This information is intended to provide guidance to those with technical ability to evaluate the applicability of this data to the specific hazards for their end-use application. The user has the responsibility to determine the proper protective equipment needed for their actual conditions of use.

<b>Challenge Chemical</b>	<b>MT94™ – Time to Breakthrough (minutes)</b>
Acetone	>480
Acrolein (1)	>480
Acrylonitrile (1)	>480
Ammonia	>480
Benzyl Chloride	>480
Carbonyl Chloride (CG) (2,6)	>390
Chlorine (2)	>480
Chloroform	>480
Cyanogen Chloride (CK) (2,6)	>450
Dimethyl Sulfate (DMS) (3)	>480
Ethyl Ether	>480
Hexane	>480
Hydrogen Fluoride, HF (Gas)	43
Hydrofluoric Acid (48%)	>480
Hydrochloric Acid (37%)	>480
Hydrogen Chloride (Gas)	>480
Hydrogen Cyanide (HCN) (2)	>480
Hydrogen Peroxide (50%)	>480
Hydroiodic Acid (55%)	>480
Lewisite (L) (4)	>720
Methanol	>480
Mustard (HD) (4)	>720
Nitric Acid (70%)	>480
Sarin (GB) (5)	>720
Sodium Hydroxide (50%)	>480
Soman (GD) (5)	>720
Sulfuric Acid (98%)	>480
Thionyl Chloride	>480
Toluene	>480
V-Agent (VX) (5)	>720

All data are based on ASTM F 739 Standard Test Method for Permeation of Liquids and Gases through Protective Clothing Materials under Conditions of Continuous Contact (chemical challenge 100% concentration and 0.1 µg/cm2/min breakthrough end point) except where modification is footnoted.

Industrial chemicals and chemical warfare agents are tested per method outlined in NFPA 1994 Standard on Protective Ensembles for First Responders to CBRN Terrorism Incidents, Class 2, Edition 2001 or 2007.

- (1) Chemical challenge concentration 350 ppm and 6 µg/cm2 breakthrough end point.
- (2) Chemical challenge concentration 1000 ppm and 0.1 µg/cm2/min breakthrough end point.
- (3) Chemical challenge concentration 10 g/m2 and 0.1 µg/cm2/min breakthrough end point.
- (4) Chemical challenge concentration 10 g/m2 and 4 µg/cm2 breakthrough end point.
- (5) Chemical challenge concentration 10 g/m2 and 1.25 µg/cm2 breakthrough end point.
- (6) Test stopped due to equipment limitation.

All permeation data presented are believed to be reliable. They are generated using swatches of fabric under controlled laboratory conditions by independent and accredited third-party laboratories.

The data in this guide are subject to revision as additional information and knowledge become available.

# ERS

# EXTENDED RESPONSE, EXTREME DEXTERITY



The ERS (Extended Response Suit) protects against lower levels of vapor and liquid concentrations that may be encountered in the Warm Zone when deployed with the proper ensemble. This one piece, front entry suit is breathable for deployment over an extended period of time.

## APPLICATIONS

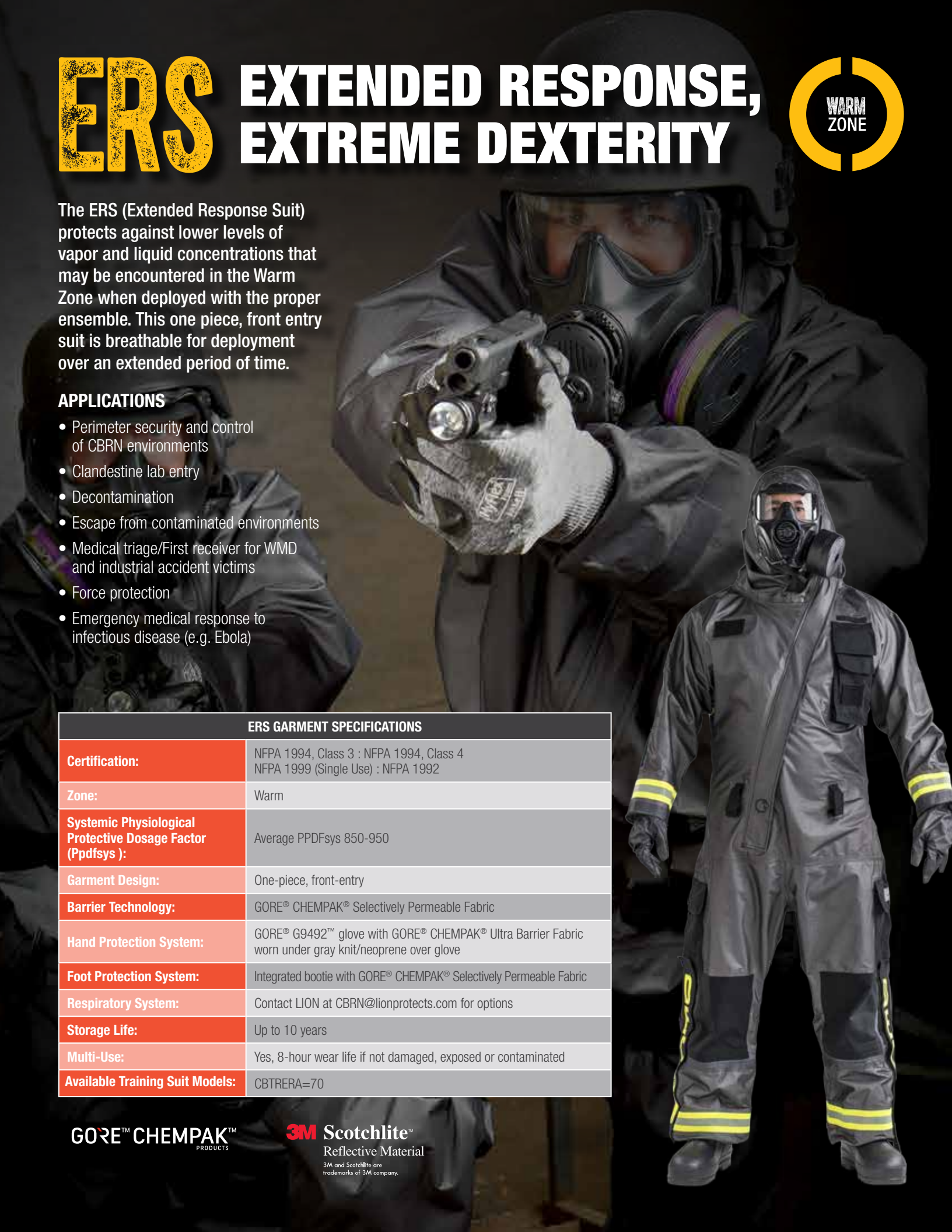
- Perimeter security and control of CBRN environments
- Clandestine lab entry
- Decontamination
- Escape from contaminated environments
- Medical triage/First receiver for WMD and industrial accident victims
- Force protection
- Emergency medical response to infectious disease (e.g. Ebola)

## ERS GARMENT SPECIFICATIONS

<b>Certification:</b>	NFPA 1994, Class 3 : NFPA 1994, Class 4 NFPA 1999 (Single Use) : NFPA 1992
<b>Zone:</b>	Warm
<b>Systemic Physiological Protective Dosage Factor (PPDFsys):</b>	Average PPDFsys 850-950
<b>Garment Design:</b>	One-piece, front-entry
<b>Barrier Technology:</b>	GORE® CHEMPAK® Selectively Permeable Fabric
<b>Hand Protection System:</b>	GORE® G9492™ glove with GORE® CHEMPAK® Ultra Barrier Fabric worn under gray knit/neoprene over glove
<b>Foot Protection System:</b>	Integrated bootie with GORE® CHEMPAK® Selectively Permeable Fabric
<b>Respiratory System:</b>	Contact LION at CBRN@lionprotects.com for options
<b>Storage Life:</b>	Up to 10 years
<b>Multi-Use:</b>	Yes, 8-hour wear life if not damaged, exposed or contaminated
<b>Available Training Suit Models:</b>	CBTRERA=70

**GORE™ CHEMPAK™**  
PRODUCTS

**3M Scotchlite™**  
Reflective Material  
3M and Scotchlite are trademarks of 3M company.



Challenge Chemical	Challenge Level	Endpoint $\mu\text{g}/\text{cm}^2$	8-Hour Cumulative Results
Acrolein	40 ppm	6	< .01 $\mu\text{g}/\text{cm}^2$
Acrylonitrile	40 ppm	6	non-detect
Ammonia	40 ppm	6	non-detect
Chlorine	40 ppm	6	< .02 $\mu\text{g}/\text{cm}^2$
Cyanogen Chloride	40 ppm	6	non-detect
Dimethyl Sulfate	10 g/m <sup>2</sup>	6	non-detect
Hydrogen Cyanide	40 ppm	6	non-detect
Mustard (HD)	10 g/m <sup>2</sup>	4	< 0.2 $\mu\text{g}/\text{cm}^2$
Phosgene	40 ppm	6	non-detect
Sarin (GB)	10 g/m <sup>2</sup>	1.25	< .02 $\mu\text{g}/\text{cm}^2$
Soman (GD)	10 g/m <sup>2</sup>	1.25	< .01 $\mu\text{g}/\text{cm}^2$
Tabun (GA)	10 g/m <sup>2</sup>	1.25	< .01 $\mu\text{g}/\text{cm}^2$
VX	10 g/m <sup>2</sup>	1.25	< 0.3 $\mu\text{g}/\text{cm}^2$



## FEATURES/BENEFITS

- Durable GORE® CHEMPAK® Selectively Permeable Fabric provides the wearer with protection against TIC's, TIM's and CWA's below IDLH concentration levels while performing technical and tactical operations
- Certified to (Warm Zone Operations): NFPA 1994, Class 3 (Toxic Industrial Chemical and Warfare Agent Protection) NFPA 1994, Class 4 (Protects against Particulate Ingress) NFPA 1999 (Single Use/ Viral protection against EVD) NFPA 1992 (Liquid Splash)
- Certified with variety of face pieces and boots, ask for the current listing
- Increased mission time and performance due to the breathable selectively permeable membrane
- Eight-hour wear life, if not damaged, exposed or contaminated
- Sleek, one-piece, lightweight design with attached hood that easily compacts for storage (Available in vacuum sealed packaging)
- Front-entry design for ease of donning/doffing. Allows for Self-donning/doffing, if necessary
- GORE® G9492 inner glove with gray knit/neoprene over glove for maximum tactile feel and dexterity
- Durable sewn and taped seams provide added confidence.
- Molded face seal that does not require tape and is certified for use with multiple CBRN respirators and masks
- Tapered legs with elasticated cuffs and attached booties for increased functionality and mobility
- Four adjustable belt loops [2 front/ 2 back] to securely wear a duty belt or a PAPR (Powered Air Purifying Respirator) and allow for easy doffing during decontamination
- Optional reinforced knees/elbows, pockets, reflective striping, and back lettering

# COMMANDO STRETCH ENSEMBLE

## DISCREET PROTECTION, ALWAYS READY

Be prepared for worst-case scenarios with the Commando stretch undergarment.

This ensemble's stretch fabric and five-piece design—including top, pants, gloves, socks and hood—offers exceptional mobility and comfort in demanding situations.

Its versatile design easily integrates with many types of outer garments for use in applications ranging from explosive ordnance disposal to dignitary protection.

**GORE™ CHEMPAK™**  
PRODUCTS

### COMMANDO GARMENT SPECIFICATIONS

<b>Certification:</b>	NFPA 1994, Class 3
<b>Zone:</b>	Warm
<b>Systemic Physiological Protective Dosage Factor (PPDFsys):</b>	Average PPDFsys 240
<b>Garment design:</b>	Five-piece design
<b>Barrier technology:</b>	Stretch GORE® CHEMPAK® Selectively Permeable Fabric
<b>Garment body protection design:</b>	Stretch GORE® CHEMPAK® Selectively Permeable Fabric for top and bottom
<b>Garment hand protection:</b>	GORE® G9492™ glove with GORE® CHEMPAK® Ultra Barrier Fabric with sleeve dam added to the barrier glove to allow the sleeve to be inserted into the glove cuff
<b>Garment foot protection design:</b>	Sock with GORE® CHEMPAK® Selectively Permeable Fabric with a knit cuff to hold bootie in position
<b>Respiratory system:</b>	Contact LION at <a href="mailto:CBRN@lionprotects.com">CBRN@lionprotects.com</a> for options
<b>Undergarment Shelf Life:</b>	Up to five years
<b>Multi-use:</b>	Yes – up to 48 hours



*Can be worn under suit during dignitary protection*



*Discreet and versatile – integrates easily with many types of outer garments*

Challenge Chemical	Challenge Level	Endpoint $\mu\text{g}/\text{cm}^2$	1-hour cumulative results
Acrolein	40 ppm	6	Pass
Acrylonitrile	40 ppm	6	Pass
Ammonia	40 ppm	6	Pass
Chlorine	40 ppm	6	Pass
Dimethyl Sulfate	10 g/m <sup>2</sup>	6	Pass
Mustard (HD)	10 g/m <sup>2</sup>	4	Pass
Soman (GD)	10 g/m <sup>2</sup>	1.25	Pass

## FEATURES/BENEFITS

- Certified to NFPA 1994, Class 3 current edition for Warm Zone protection
- Garment designed with stretch GORE® CHEMPAK® Selectively Permeable Fabric
- 48-hour wear life if not damaged, exposed or contaminated
- Lightweight, breathable, versatile design can be easily integrated with a variety of equipment and outer garments for discreet operations
- GORE® G9492™ gloves with GORE® CHEMPAK® Ultra Barrier Fabric
- Available in a wide range of sizes

## APPLICATIONS

- Dignitary protection
- Explosive ordnance disposal
- Perimeter security and crowd control
- Technical rescue in contaminated environment
- Unobtrusive protection in crowds for air sampling

*Added protection – use as undergarment for explosive ordnance disposal*



# GEAR BAG



# TRAINING SUIT

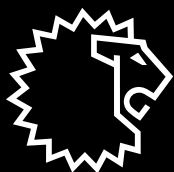
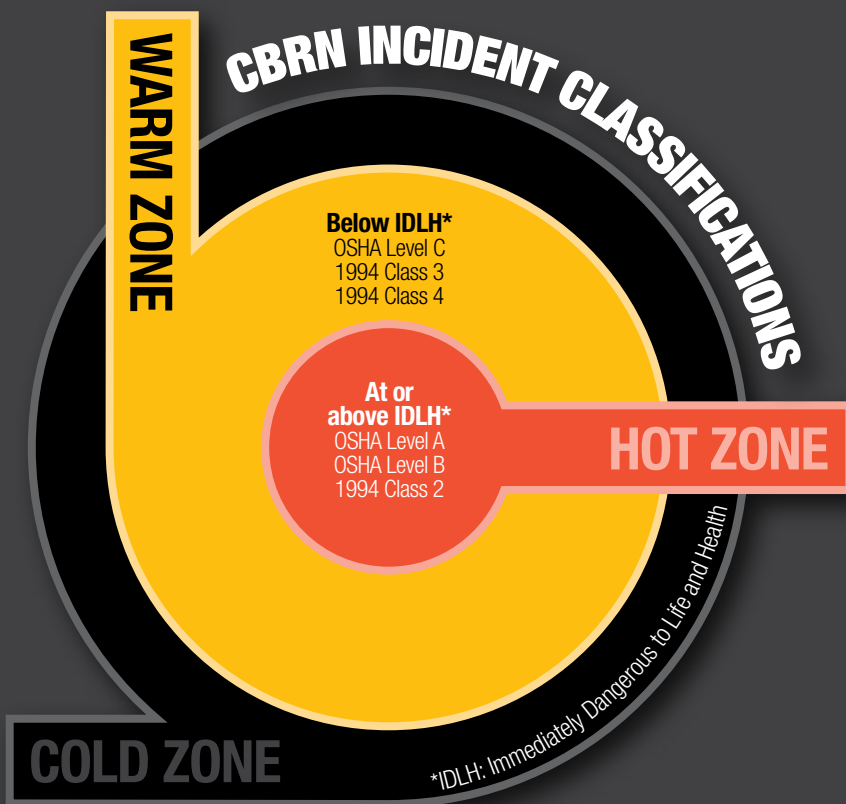
## HOT ZONE AND WARM ZONE

There are two major threat levels for CBRN incidents for which LION makes specific garments – Hot Zone operations and Warm Zone operations. The type of zone depends on the type of chemical or liquid hazard to which an emergency responder may be exposed and the concentration of those chemicals.

Hot Zones are identified as being Immediately Dangerous to Life and Health (IDLH). Warm Zones are identified as being below IDLH levels but still pose a significant threat.

## LIMITED PROTECTION AGAINST CBRN THREATS

Each ensemble is rigorously tested for protection against various chemicals and biological threats. These tests evaluate the penetration and permeation resistance for complete ensembles to chemicals and chemical vapors.



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**WARNING:** Never wear the garment without the correct respirator, footwear, gloves, hood or belt; never wear the garment without all elements in place. The garment alone does not provide protection against all chemical and biological hazards. CBRN ensembles provide no protection against flame. CBRN ensembles provide limited protection against abrasion, puncture, bodily fluids, other liquids and gases. No products, including garments, footwear or handwear, can offer absolute protection, even when new, and their protective performance will decline with wear, tear, abrasion and other damage associated with use. W. L. Gore & Associates, Inc. and LION make no guarantee of how the product will perform in actual use.