Chemical Resistant Coverall

- LIQUID CHEMICAL SPLASH PROTECTION
- HEAT & FLAME PROTECTION
- ARC RATED PROTECTION 25cal/cm^2
- ANTI-STATIC
- WATERPROOF
- BREATHABLE
- WINDPROOF

GORE-TEX PRODUCTS

GORE

MULTI-HAZARD GORE-TEX PYRAD®

ANTI-STATIC, HEAT/FLAME,

WATERPROOF/ BREATHABLE FABRIC

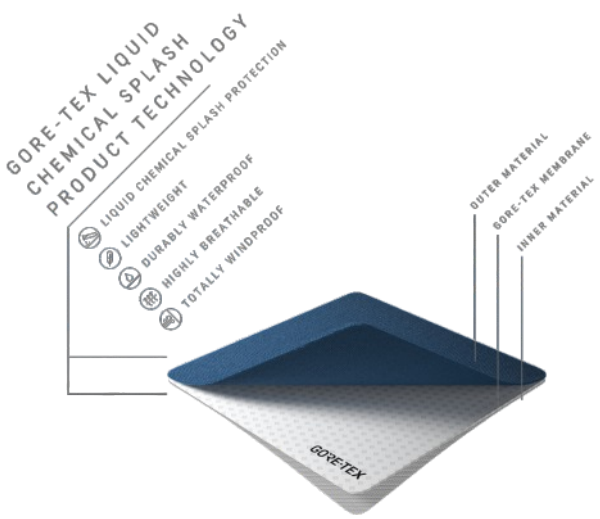
glanda INTERNATIONAL

ENGINEERED PROTECTIVE APPAREL

FR WET COLD CHEMICAL

126-128 Bamfield Road
West Heidelberg,
Melbourne, Victoria,
Australia, 3081

Telephone: +61 3 9457 5458
Facsimile: +61 3 9457 5985
Website: www.glanda.com.au
Email: contactus@glanda.com.au



GORE-TEX LIQUID CHEMICAL SPLASH GARMENTS

FABRIC TECHNOLOGY IS ENGINEERED TO PROVIDE OPTIMAL PROTECTION AGAINST HEAT AND FLAME BY BALANCING FLAME RESISTANCE, THERMAL INSULATION AND THERMAL STABILTY.

During thermal hazards such as flame, arc flash or flash fire exposure the fabric:

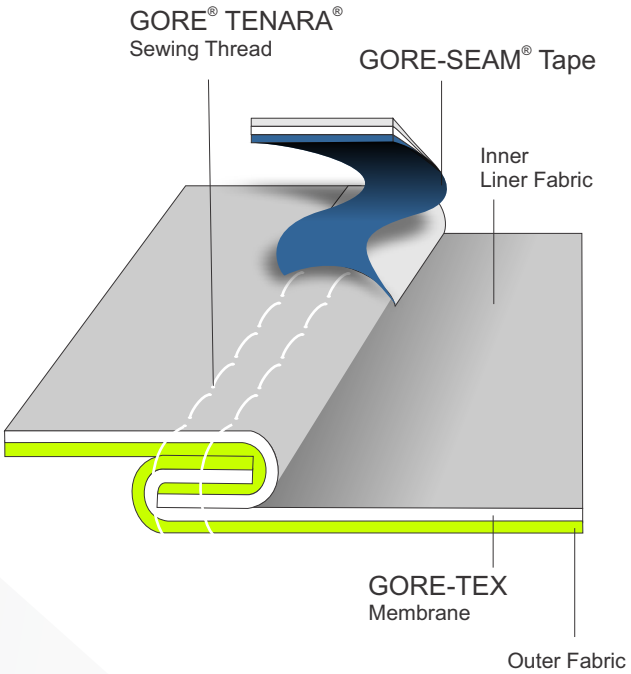
- Blocks heat flow
- Stops flame propagation
- Forms a carbonaceous char
- Reduces the heat transfer to skin
- Keeps integrity - No hole formation
- Physical integrity of the laminate is maintained after heat and flame exposure

BREATHABILITY BENEFITS OF MULTI HAZARD GORE-TEX PYRAD® GARMENTS.

- Gore products are breathable, flexible and feel lightweight
- High breathability minimizes dangerous rise in body core temperature
- Higher productivity compared to impermeable PPE
- Allows freedom of movement
- Gore's products can increase compliance while reducing workers heat stress and discomfort

MULTI-HAZARD GORE-TEX PYRAD® TECHNOLOGY FEATURES AND BENEFITS

- Durable and extensive liquid chemical protection
- Fully seamed garments with high manufacturing standards
- Single garment providing protection from multiple hazards
- Safety PPE to potentially mitigate heat stress
- Increased safety with high visibility combined with multi-hazard chemical splash protection
- Tested in accordance with the minimum performance requirements of NFPA 1990/1992 standards and additional chemicals. (Refer to the GORE-TEX Liquid Chemical Splash Chemical List on page 4 and 5)
- Breathable and durable chemical penetration resistance that allows perspiration to evaporate through the chemical barrier to the outside.
- Garments can be safely washed without compromising chemical protection.
- Seams are vulnerable areas prone to chemical penetration. Garments made with Multi Hazard GORE-TEX PYRAD® fabric are finished with GORE-SEAM® tape and sewn with GORE® TENARA® sewing thread, a specifically designed thread that is highly thermally stable and chemically inert, which prevents seams from failing during chemical splash incidents.



Item Code G2186PYR Colour: Hi-Visibility Flouro Yellow Size Range: 2XS - 4XL

Chemical Resistant Coverall

Stow a way Hood

Sleeve Tab Adjustment with inner elastic cuff

Double storm flap

Fully Seam Sealed

Sewn using TENARA Gore Sewing Thread

Adjustable Boot Entry with hook and loop tab.

ALL MEASUREMENTS ARE IN CM.

To Fit Body	2XS	XS	S	M	L	XL	XXL	3XL	4XL
Chest Circumference	76	84	92	100	108	116	124	132	140
Waist Circumference	76	84	92	100	108	116	124	132	140
Out Leg	95	97	103	106	112	114	120	123	129
In Leg	65	68	72	74	78	80	85	86	91

Chemical Penetration and hot liquid splash resistance data

Multi Hazard GORE-TEX PYRAD® Garments manufactured by our certified manufacturing partners are engineered to the highest manufacturing standards and provide the only breathable and high temperature chemical protection. The features and benefits include durable and fully sealed protection from liquid chemical penetration, breathable, minimize risk of thermal injuries caused by incidental exposures to thermal hazards such as hot liquids (ASTM F955), steam and hot water (CAN/CSGB 155.20), flash fire (ASTM F1930) and electric arc flash (ASTM F1506). Durable and light weight solution combined with high visibility yellow (ANSI 107 / CSA Z96) to improve industrial workers safety against the potential multi hazard exposures in the working environment

Chemical Penetration Data

The following chemical penetration data was generated in accordance with the specific performance requirements of NFPA 1992 liquid chemical splash-protective ensembles and elements, as outlined in the 2022 edition of the NFPA 1990 standard. The Chemical Penetration Data is color coded, as described below, to assist in determining the proper application for protective clothing made with Multi Hazard GORE-TEX PYRAD® Fabric.

Green - Chemicals Printed in Green

Multi Hazard GORE-TEX PYRAD® Fabric passes the penetration performance requirements for these chemicals.

Yellow - Chemicals Printed in Yellow

These chemicals represent both potential vapor and liquid splash hazards. Multi Hazard GORE-TEX PYRAD® Fabric passes the penetration test for chemicals printed in yellow. Significant amounts of chemical vapor may permeate this fabric. Use Multi Hazard GORE-TEX PYRAD® Fabric for these chemicals only in controlled situations if vapor exposure is acceptable. Consult a trained professional in industrial safety or hygiene when making this determination. Failure to comply with this warning may result in serious injury or death.

CHEMICAL	CONCENTRATION	CAS #	PENETRATION RESULT
Acetic Acid	Reagant Grade	64-19-7	Pass
Acetone	>99.9%	67-64-1	Pass
Acetonitrite	Reagant Grade	75-05-8	Pass
Amonium Hydroxide	30%	1336-21-6	Pass
Amonium Phospate	Saturated solution	7722-76-1	Pass
Anhydrous Ammonia (Liquid at -34° C)	>99.9%	7664-41-7	Pass
Butyl Acetate +	>95%	123-86-4	Pass
Calcium Hydroxide	Saturated Solution	1305-62-0	Pass
Calcium Hypoclorite	Saturated Solution	7778-54-3	Pass
Chloroacetric Acid	Reagant Grade	79-11-8	Pass
Citric Acid	50%	77-92-9	Pass
Dimethylformamide	>95%	68-12-2	Pass
Diesel Fuel #2	Reagant Grade	68476-35-6	Pass
Ethanol	100%	64-17-5	Pass
Ethtyl Acetate	Reagant Grade	141-78-6	Pass
Ethylene Glycol	Reagant Grade	107-21-1	Pass
Formic Acid	85%	64-18-6	Pass
Fuel H + (42.5% toluene, 42.5% isooctane and 15% denatured ethanol v/v)	Mixture		Pass
Hexane	Reagant Grade	110-54-3	Pass
Hydrogen peroxide	50%	7722-84-1	Pass
Hydrogen peroxide	70%	7722-84-1	Pass
Hydrochloric acid	37%	7647-01-0	Pass
Isopropyl Alcohol +	>91%	67-63-0	Pass
Methanol	>99%	67-56-1	Pass
Methly Isobutyl Ketone (MIK) +	>95%	108-10-1	Pass
Motor Oil	Reagant Grade	64742-65-0	Pass
Nitric Acid	21%	7697-37-2	Pass

CHEMICAL	CONCENTRATION	CAS #	PENETRATION RESULT
Nitric Acid	69%	7697-37-2	Pass
Oleum (Fuming Sulfuric Acid)	20% as free S03	8014-95-7	Pass
Phenol	89%	108-95-2	Pass
Phosphoric Acid	80%	7664-38-2	Pass
Nitrobenzene*+	>95%	98-95-3	Pass
Sodium Chlorate	Saturated Solution	9/9/7775	Pass
Sodium Chlorite	Saturated Solution	7758-19-2	Pass
Sodium Hydroxide*+	50%	1310-73-2	Pass
Sodium Hypochlorite +	10%	7440-23-5	Pass
Sodium Hypochlorite	12.5%	7681-52-9	Pass
Sodium Hypochlorite	19%	7681-52-9	Pass
Sulfuric Acid	99.5%	7664-93-9	Pass
Sulfuric Acid*+	93.1%	7664-93-9	Pass
Tetrachlororthylene*+ (Perchloroethylene)	>95%	127-18-4	Pass
Toluene*	Reagant Grade	108-88-3	Pass
Black Liquor**	Neat	66071-92-9	Pass
Green Liquor**	Neat	68131-30-6	Pass
White Liquor**	Neat	68131-33-8	Pass
Xylene	Reagant Grade	130-20-7	Pass

+ Chemical listed in NFPA 1990, liquid splash protection for 1992
* Liquid chemical listed in ASTM F1001, Standard for Test Chemiclas to Evaluate Protective Clothing Materials
** Consult a trained professional in industrial safety or hygiene to determine if application is acceptable for your use

Hot Liquid Splash Resistance Data

The following hot liquid splash resistance data was generated in accordance with the Standard Test Method for Evaluating Heat Transfer through Materials for Protective Clothing (ASTM F955). Testing is typically performed with molten metals but also with other substances such as hot chemicals to evaluate the heat transfer properties through primary PPE of a particular end use.

Multi Hazard Gore-Tex Pyrad Fabric

ASTM F955 – Standard Test Method for Evaluating Heat Transfer through Materials
Industry workers may be exposed to hot chemical processes that do not match standardized testing methods.
The final decision on using Multi Hazard GORE-TEX PYRAD® garments must be made by company safety leaders.

HOT LIQUID	CONCENTRATION	CAS #	TESTED QUANTITIY AND TEMPERATURE	TEMPERATURE INCREASE TOP/BOTTOM CALORIMETER (° C)	TIME TO 2ND DEGREE SKIN BURN (s)
White Liquor	Neat	68131-33-8	0.2 kg @ 190°F	2.0 / 2.2	No burn
Green Liquor	Neat	68131-30-6	0.2 kg @ 190°F	1.6 / 1.5	No burn
Black Liquor	Neat	6601-92-9	0.2 kg @ 235°F	12.8 / 14.3	No burn
Light Mineral Oil	> 99%	8042-47-5	0.2 kg @ 300°F	5.7 / 5.5	No burn
Molten Sulfur	> 99%	7704-34-9	0.5 kg @ 300°F	6.2 / 7.7	No burn
Peanut Oil	> 99%	8002-03-7	0.2 kg @ 450°F	10.4 / 10.5	No burn
Molten Aluminum	> 99%	7429-90-5	1.0 kg @ 1400°F	12.4 / 14.6	No burn
Cement Ash	> 99%	As received	0.1 kg @ 900°F	4.0 / 2.1	No burn
Cement Ash	> 99%	As received	0.1 kg @ 1500°F	6.7 / 4.1	No burn
Smelt	Neat	As received	0.25 kg @ 1500°F	14.4 / 22.4	No burn

Industry workers may be exposed to hot chemical processes that do not match standardized testing methods.
The final decision on using Multi Hazard GORE-TEX PYRAD® must be made by company safety leaders.